Educational Multimedia:

A Strategy Session

Minutes

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Shaw Children's Programming Initiative
Initiative de programmation pour enfants

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THE BANFF CENTRE
FOR THE ARTS

ENM Minutes Aug. 18
Sara: overview of the schedule for the day

9:15 Constructing Research Networks using presence and distance collaboration.
Moderator Sara Diamond, with Connie Samaras, Walter Stewart, Jeff Hamilton, Tom
Keenan
Connie:
Themes: arts research, terminals project, internatonalism
Translation: perceptual fields, reality and translations; language as control; ways of
talking and imagining who designing for; as subject; how talk, erasure, Language,
conceptualizing.
e.g. Victoria Vesna, architecture as ideological, looks at computer based language, not
hospitable to democratize public space. Thinking about structures: Artificial Intelligence,
artificial agents.
Identity, hybridize, advocate, taking up a position, to organize against forces taking up
identity position, can be limiting
Emotions are not acceptable in the university.
Interdisciplinarity is a challenge. Universities are discipline driven institutions, hard to
remodel. Hard in discipline driven environment.
Interdisciplinary Arts group: $60,000 between all U.C. campus. They suggested a
research model where people compete, now first multicampus research unit, lots more
money, now research compatible with links to president, ICA
First collaboration, book and CDROMS--
College Art Association-panels to CAA, paid through CAA, and then did colloquium at
Irvine. Got money from the university. Hard to get people in, university does not
facilitate with the government bringing in international hosts.

Walter: quote from T.S. Elliott, how much wisdom have we lost in knowledge, how much
knowledge have we lost in information, how much life have we lost in living.
Why prop us structures, privilege connected to the structures and self definitions,
research networks in networked intelligence, form and function, invited to conferences,
speak about distributed learning, Seattle, National University Telecommunications
Network. Hauled people from all over, expect 45 minutes talk with 5 minutes for
questions. Do as I say, not as I do...analogue events to talk about collective
intelligence, set up in ways a creature of alphabetical literacy, networks for research,
networks as a research tool. Took in slight direction, dog and pony in San Francisco --
Invision, presenting on Canadian m.m., mouthing it. In addition to lines had to interact
with avatars of selves on screen. Did live broadcast, supposed to be interactive,
speaking to self, instead of to group. Issues of intellectual property, private ownership.
How assert, self-memorialize through creation, conversation, dialogue; seeing
ownership structures in opposition to the content and structure of what trying to do to
create new networks.
Tom: avatar, Toronto m.m. show, video cameras at face, response to facial expression;
also had experience where did broad band width video conference, showed up five
minutes late, all waiting. Have fun, why do it, if not fun, Asia Pacific Distance Education
Network, in a nutshell, Japanocentric Model, pay for it, but fly to Tokyo. MACi putting

back resources that university should have had. Reality is that cuts, need new equipment. Sciences have own problems, artists with brain can work, but need technology. Need the lab access to work and do comparative work. Pooling resources and sharing...diversity of research activity, out of formal model.   Web site, chemist, soak up all the cycles in the computer, computer graphics,
National Learning Structure Initiative--NLII project, discipline based collaboration. Smart Communities Demonstration Projects...provide in each project, in Aboriginal Communities.

Sara:
1) R and D at Banff--arts research and SSHRC--but trying to be really clear about rigour, new work, assessment, failure and success, and critical dialogue, working side by side from disciplines to not just analyze projects. One of the problems that we have had is to convince research environments that a place like Banff is a research facility (IRCAM, France; ZKM, Germany)
2) @ct.ca: Access, Culture, Technology, Commerce, Theatre/performance (distributed work, network, study research methodology, level the process of discussion; create a new next level resource; five levels of creative practice: games and play; immersion; interactive design; power and architecture within the process of design--did not make it, work with smaller.
3) CURA
4) Talking last night about three experiences here, The Summit, where did web environment that was lateral; The Synch and Stream summit, here simultaneous streamed media (radio), broadcast; live chat; live event--moderator, v.j.
5) Banff research: performance based, artist's software, 3D experiential spaces, Knowledge generation and identities, bodies; open source.
6) Linkages with research with EU, Mexico, art, science and technology.
7) Aboriginal research at Banff--dance and then dance and technology and now with other cultures, MEXICO, Australia
8) Recombinant knowledge, need to put artists, scientists, psychologists together.
9) Use networks to develop and drive research.

Terry: Have someone work with places like Banff to study what we create, turn events into research events. Walter: People in every dept. find themselves hard done by, the Centre cannot hold. Dave: Not all peripheries are equidistant. Connie: Hierarchies. Intellectual currency, post-structuralism knowledge, critiquing mastery and authorship, but ideas ascended who did not have access to the materials of production, kept of systems, perverts, all the resources and voices, originality no longer an issue, might be an issue. Private property and lock down.
Dennis: Things are going to get better, whining does not get anything, collective whining is worse, way that the way works, economy, lesson, heading into a knowledge century, new millennium. Knowledge is a part of the economy, look at who is delivering it, century where delivery of knowledge should not be by scientists and engineers, arts and culture will play a larger part because of content, knowledge century move forward.
More dollars for research, when engineers and scientists catch on. Hope from the USA,

but attrition rate amongst artists --fight to do work. The USA does not support arts, if a country where cultural work is not appreciated not matter if any credit. Visible. AT and T, who will deliver, take over the high powered delivery in the USA, businesses to AOL, access to net, people fighting for years aligning. Optimistic. Deregulation, international work, in universities can talk directly. Government laws. Cultural protection in US trade, commercial and cultural expression, only government fighting the USA; Craig: research councils, cross Canada show and tell, brought senior representatives of councils at the University of Alberta, try to find a way to adjudicate cross disciplinary research. They have not done as good a job as might have; government is frustrated that a lack of good cross-disciplinary research, researchers themselves do not support cross-disciplinary research. Second point: Science Fiction good model for research, six months ago, about the premise, intellectual property is commercial, if you have an idea, post idea to the web, stock in the idea and pay money, AB Research Council, ideas stock market. Caltech, looked at the book: www.webworld.com. Tried to IFP ideas through www: idea futures. Patrick Clancy is starting an ideas brokerage research network, USA. Internet go server, on line, play with, blows out Go Clubs, Professional Go Player in China. Lessons on line to chat and play. Structures in on line systems. Email in your game and he will work with you. Totally illegal from regulatory standards. But functionally not able to regulate it.   More than has been to exchange expertise. Before Hong Kong returned. Gone to the net. Transborder data flows.
Owned by the universities in the USA.
Catherine: Ideas are a dime a dozen, bringing ideas to fruition really the glory of the process, dynamic generation of ideas for telecollaborative projects. Within fifteen minutes many ideas, watched as work through it, no road blocks, just challenges. Is the idea worth addressing the challenges, since challenges are extreme. Look at the end result, where do they go, to what end. Venture capitalist state the same. Tom-Found the solution to all of our problems-
Voyageur put out, **You can't get there from here.**
Internet archives. A lot happens, but still happens. Typing up notes, in their depts.
Server down and male student, turn on a Mac. Suggest anorexic.

Distribution Discussion: Quantity Versus Quality
Power Point presentation on model.
What has happened so far: statement comes up that there is not one right model. Event sequence or process of what makes sense, when.
Disney fact of life, course developers, etc., Canada one tenth of the USA, believe that in Canada, reinventing continually. Within and across provinces, get together and look at what needed on curriculum level, grow industry by hiring. Educator driven design, grow an industry, Prairies, common curriculum, larger market for producers. Claudia: Disney ships a lot of their work out, has their branding, that name mentioned, with flashiness, extreme lengths to not be flashy, make their work traditional. Other group, Time/Warner CNN. Packaged as tool.   Cannot ignore them, need to bring in. Scheme of education. Walter: look at NAIT, why does Time/Warner need NAIT? What value would NAIT bring? Specialized, credentialing and localized market. Private training places, no rights to issue diplomas, people go because respectful of students time, colleges respect faculty. Sixteen months for twenty hours a week, but students will pay ITI for

top end equipment, opportunity loss cost for vocational skills are higher than paying for the training. Accrediting bodies, not true. Time/Warner as bank. Market influences, modify curriculum; publishers would prefer to work with public sector institutions to get to market, will do around if not through. Dennis: how will institutions behave if money going to students not institution, like a voucher system. If people will pay large sums of money for training at higher cost, think of scenario where student votes with feet. How will institute respond to capture student?   Craig: it effectively works that way now. Go to NAIT or private sector institute. NAIT also gets base funding. Students voting with pocket book. If students got base funding, voting with feet. K to12, local school numbers directly define how many dollars the school gets.   Now students receive marketing. If had to operate that way, how change to attract the learner. Fund time based now, NAIT sixteen months of funding, if can teach in ten months intensive, with give them five eight's funding, so there is structural inefficiency, since all funding structures are time based. So underemployed students while learning, Dennis: No problem that we cannot make bigger.

Terry: course production, at U. of A.: Rogers adoption model, compatible, trialability, obversability, relative advantage? Adopted Web C.T., grad student designed course. Order of magnitude different. System with objects that is created outside, pay per use fee, compatible within current system. Home page for course: course content built on text book, cooperative learning; Hot Links, used word and saved as HTML, can add little graphics; glossary, hotlinked, references with notes; quiz generator linked to pages; set up goals...students do not see bottom menus, this is for instructor; calendar; tell people what happens each week, link announcements, assignments, audio links; quizzes; conference forum: weeks with moderation, students also moderated, lots of volume, threaded, what have read, what not; participation and tracking systems; topics, download sections; do a book; unit development; real time chat system; profile; dead easy for subject experts who are not m.m. people, m.m. comes in as objects. What do not have is costing and distribution mech. IMS standard will be to link objects, then can build up...for faculty, keep in position, control and power situation. Enhancing face to face. Doing for objects, went to Net Resources, sent to Open University all free stuff at the current time. Down side, WebCT, no better than Lotus Learning Space, Black Board, Top Class, etc. Jeff: has worked well in their environment, they are early adopters.

Allyn: process raises other issues to solve before broad scale adoption, m.m program online, idea was to produce 20 modules, best advantage, exposed all problem inside university in adopting a tool: need to decide on selection criteria, etc. Walter: example is wonderful, noone knows what works anyways, still little experience, those who are creating it, are mostly those who learned conventionally, ability to do in full humility, it is great start; project in Texas, compulsory courses to graduate, Texas State Arlington, 20,000 students, 27 years old, average working week is 30 hours a week, students challenged to get to class, videotaped their best teachers in courses, created course modules, buried the video as introductory clips, do not have to use the clip, but the teacher is there as a resource. Students come to university, 7 x 24, own schedule, come to any computer in the university (students do not have their own computers), students doing well.

One of the questions, high production values. Catherine: connection with what Terry showed, creativity and artistic nature. Need to merge with technology. value of WEBCT, access and produce, underlying backbone for it to run. May not be the best way to teach people, Flash, did they learn anything. Challenge is to take the m.m. technology and have an underlying backbone for education and personalizes for the learner, use the special effects to make technology transparent, get to where need to go. That is the real challenge. Allyn: production values, for commercial environment, educational environment, might be appropriate, cleanly and well.. Relative, what place between what student and content, impediment.

SD: Production values: assignments: really challenge to be able to make work, and interfaces for access, transparency, also production values for certain kinds of learners and need to address them with materials that engage them. Connie: kids are producers, model of education, secrets handed down, different era. High production values, appreciation reachable. Sandi: context of the learner, level of education, two years, and setting. Purpose spectrum of expectations and motivations. Relativity involved. Spectrum. Models and ideas need to keep generating. Good instructional design production values, technical production values. Proposing tools or objects to modify for local area, not yet in place on the net...Advocate system of use.

Discussion about the difficulty of selling any multimedia into the educational and especially K12 market. Sense that there is insufficient funding to support major acquisition of multimedia titles or objects. Hope that the net based distribution of educational objects exchanged as individual use fees may offer the most realistic option meeting educators and producers needs - see IMS http://www.imsproject.com and Educational Object Economy http://www.eoe.org

Equity Issues
Equity Panel:
Claudia: 1. Technology is gendered: need to let women know that there are inequities prepare them. 2. Need to challenge designs. 3. Active recruitment of women into the technology learning environment, 4. Mentorship programs between female students and professors, female students and high school students, 5. At Disney Interactive, started a women's group, got women from upper management involved, women had been afraid that would be perceived as trouble makers, did not work 100% since bitch sessions and ego sessions. 6. Women have problems and the boys help them, can become lazy, girls need to resolve themselves. Girls and women need to be self-motivating. Self-sufficiency. Most of the professors helping are men. 6. Need to provide role models. Bring women in from industry. Address issues, industry representatives come to recruit, set up meetings with h.r. can be asked and discussed. Role models, undermine bullying attitude and competition etc.
Learned that women and girls willing to help next generation, women afraid of being associated with feminism, important to make women aware of need to fight for their rights.
Don: Why is there violent imagery in cg. Claudia: war was men's domain, women reproductive technologies, CG taps into reproductive technology, powers of technology

is reproduction, no longer women's rights, women sent to front lines, in theory. Afford to send women to the front lines, active recruitment of women. Gay men, fighting to join. Right to join front lines and die. Why should a woman not have the right to deny the lines? Wars, virtually.

Catherine: role models for girls, boys in class, now its fifty-fifty. Rules were that you had to explain what to do, not do it for them. Trained them to communicate instead of fix. Very offended. End of working relationship. Until deal with mental constructs, will continue, role modelling and etiquette. Richard: applaud for concern in getting gender issues in, media as whole. Human body in idealized state, WWF, images. Concerns around boys who are abusing steroids. Image issue. I am just as good. Comment, why always going to the front line, human species is tribal. Tribalism current state, Kosovo, Thailand. Self-actualization. Organizations: Canadian, Julie Payette, showcase women leading in science and technology, in software as well. Canadian Women in Communication, Sally Field: speaking series. Sandi: Like what saying, women marginalized in advertising and media, as have men. Computer graphics era a new frontier. Elevated sense of violence, don't think that new, just a different industry to that which business world did in the l970s, now have new industry, with same social barriers. Don: masculinity and stereotypes, computer user, nerder geeky guy, sexually inactive, live out the fantasy through the games. Sexual women with guns. Girls seeing victimization as a problem. Martial arts courses, girls signing up. Sara: Need to look at the debates around censorship, look at the issues of identification around gaming, violent societies engender violent media, not the other way. How do games function and what kinds of analyses do we need that complicate this. Games: hand and eye coordination issues.

Shaw presentation on work in new media
Shaw: what they are seeing in the educational communities, different constituencies, issues in these areas. Also, talking about the future of the integration of technology, educational content and product, SHAW perspective: high speed integrated networks, for business, education, K-12, evolution in K-12 in deployment of high speed networks, in constituencies, how addressing and how resolve. K-12, company involved in that area. U. of C., Collaborative Electronic Learning Project, adding a third year, understand bringing broadband width technologies into I.T. support, how introduce effectively into classroom. Nine schools, public schools, Catholic Schools, broad band width fibre into U. of C., collected. Managed. Dealt with. Over two years, aimed at Grade Five and six. Teachers, faculty, etc., at schools. To post-doctoral students, concept, see what happens when connect students to work in truly collaborative and broad bandwidth environment. How do relationships between teachers and students work, how do parents understand relationships. Post-doctoral students authoring. Broad band and m.m. technologies into the classroom.
1) Continuity: Unless total commitments from every single player, it will fall apart, quickly, loss of it. And Is. supports andn revolving door of teachers.
2) Enormous technical problems: all of the apps. Could not run through a firewall. Project leaders would sit with network leaders and over the weekend the administrator from the network would rebuild into the system. Paranoia that something bad would happen. Protectionism.

3) People maintenance: As project developed with students, students churned out of the program, would move on, younger students huge project to get them up to speed. Maintaining continuity of the experience.
4) End user as ambassador: Once student's comfortable, enormous ambassadors. Spokespeople for project. Impact on their learning. Why better student.

Project: 90 students, all in teams, worked with aliases, collaborated through email, audio bridge to do communication, post all research on net, other students post results, put presentations together. Who controls the mouse, do them synchronously, nine schools logged on, all sharing the applications, work out mouse control. Interaction between groups, how to create content collaboratively, how present collaboratively. All could see and all present and comment, faculty at U. of C., did the evaluation, posted on the www site. Understand what happens when 100 megabyte connection. How integrate effectively, figure out how works. Second project: also interested in media literacy, broadened out towards screen literacy, media literacy, gaming, or t.v. or interactive chat: ability to use screen to communicate and evolve ourselves. Media Awareness Network: around media literacy and tools for parents and teachers. Initiated a project in AB, TV and Me. Takes ads by concerned children's Advertisers. Looked at drugs, sex role stereotyping. Brain ad, clipping connection points. Took all of commercials and created lesson plans, deconstruct, understand approaches, finished AB workshops with parents and teachers re media literacy. Understand how media constructed. As a company not involved in censorship, rather educate and inform, in all areas. Interested in CRTC decision not to regulate the Internet, R word, and lack of responsibility in the home of television and net.

Figure out how to empower parents to understand kids experiences. Kids have own p.c. and net connections, social responsibility, how empower the players. Many issues. Larger scale, building of networks for school boards and universities, finding interesting issues as roll out. Lack of resources on building the network, cheap and dirty connectivity, at the provincial government level, free up to build infrastructure. Contract in Ontario, York Region School Board. Better connectivity, 200 Meg. LAN, school of learners within the sytems. When empower faculty,students,etc. what doing, robust admin. nets, little focus on content. What kinds of things can do? He with key has access, i.t. and i.s. running the schools, how to use network to create learning environment. Frightening prospect for teachers--many without skills. Board administrations. Electronic wall went up around the board, sidetracked by issue with teachers. How put in hands of students tools to create a whole new experience in the classroom, shift power to learner from teacher. Talk to parents at Parent, teacher nights. See these as big issues as building the networks. Cognizant, understanding how to manage.

Other major focus: integration of technologies, conceitedness technologies, Local, National and International access, how integrate into places where experiences happening, now over cable able to go point to point digital. Digital smart card box. Off of a video server. Addressable digital box can send programs to different people, what is missing are content. System in place for tracking, etc., Can take signal. can add chat,

etc., but where is the meat? Ability to do more, set top boxed. Delivery just in time education. What impact on work places to have just in time training delivered. Advanced discussions with Calgary companies to deliver.

2:00- 3:15
Educating for the technological future, how can we create a labor force that can contribute as fully as possible to the digital world?
What future holds as pull together? Smart environment versus what markets to people. Shaw: save time, save money. No downloads. In university etc. Communities. Universities setting scene. University stake is a media asset. Effects on post-secondary education. Universities based on funding the physical space, context. How do these universities begin to compete? How to keep faculty. Post-secondary community, business opportunities. Board, K-12, biggest asset is their diploma, market around the world. Child to immigrate to Canada needs Canadian K-12 graduation diploma. What is our market.

Not involved in content creation, understand it, what need to do to support, need to think about networks for new forms of activity.

Discussion: Terry, people committed to project. Trainability, unlikeness in innovation adoption. Cannot get 100% commitment to project. In AB, computers came in, through the lab, separate, now as curriculum integration, integrated tool, not a project, but a way of working. Teachers expected to have a certain skill level it. And is. Teachers who run are marginalized. Some embraced others ran, those not engaged: 1) left, 2) marginalized, 3) trained. Faculty of Eds. focus on i.s. and i.t. and m.m.content development. Focus on group, how get at Faculty of Education to wake them up. Clients into schools as teachers, will excel if have skills in that area. e.g. Calgary, breach of security issues, became one step forward, 28 back. Kids want to work at home, parents want to involve big gap Schools where technology is integral to school course ware downloaded at home, forced to get a connection. When a trial takes up 90% of teacher's energy, not ready for trial. Want functionality, works every time with Car. Get to that. Operating systems all differ, some with none. Plug and play. Needs to be the methods. Allyn: notion of online institutions, Open University has large physical campus. Model ignores Faculty model, if not just teaching. E.g. International u. out of Denver, is the model Multiple stakeholders. E.g. daughter issue of virtual delivery, Drama and Education, experience needs to be interpersonal. Universities from business pov, maintain selves. Competitive between universities. Recent graduates. e.g. Shaw Cable Tech. Roll out. When assessed the capacity of the students who looking for, get the students up to speed. Invented training as went on, just in time learning at the University, but needed those skills at that time.

Research a key role of the university. Critical thinking skills, do these need face to face, interaction, dialogue, only way to learn is in space not true, need to maintain face to face, least likely happen in online environment, not search out in online environment. Information not neutral. Value what...as whole different experience. Peoples fear, understand that the legitimate concerns of fear. Tom: agree re: socialization. We

cannot say for sure, there might be a better way, put in a position where knowledge comes to us. If set up as target, make connection. One of her points enables more communication. SD; as question, what is the role of research. Research at Cell project. Email communications set up aliases. At a conference two years later, people met, 12 year old student and 48 year old engineer, learned from each other, asked selves question: if knew generation gap, would they share. Look at issues. 11 to 12 year olds self-conscious. If remove barriers what happens. Other big part of the research, what skills needed for kids to truly work collaboratively, control, protocols, how pass control to someone, and accept control, Power issues. How do in v.r.Funded U. of C. to do the research. $ into network. Belief that there is a role for universities, involved in research, shift in who funding, outcomes, applied or theoretical? Dave: echo benefits in terms of online medium and communication, web. Knew fellow students better through online contact, barriers less, can be too present. Research needs to be done to understand where each model is effective, disenfranchisement, sexuality, sexual orientation, what happens when non-issue; how benefit how work together, talking to reserve, big issue, when erodes lines. Walter: Queens for in person meetings, problem when posited, keyboard but only anonymous contributions. Depriviledges vocal. Tom: quick response, quick decision response lab, home pages for homeless. Worse than say, five hundred students, profs out the door. Most chemistry profs. To Alex a stroke: son involved in project with kids hospital, kids long term able to talk to other kids, communities special interest. Come and go in the hospital--Starbright Foundation lifeline. Alex: Ronald McDonald House, facility, isolated, wired the building, video conferencing, go back to class mates and talk to them. Talks to need.

Company worked with Management training programs. Company in Toronto, environment, everyone equal. Obvious ways, horseshoe, no writing instruments, three rooms. Thought building work process, third party captured and feedback,worked til the lights went on. Then lights went on, common knowledge, cannot escape. SD: Starbright research interesting since kids accept knowledge from characters and animations, avatars in fantastic ways. Systems adminstration and janitor, unseen now. IT supports administration. Not i.t. Catherine describing after effect, admin. Nets established for admin, now not meeting needs, have to redesign. Legacy issues. Shift needs to come. Brian: fundamental change, admin. Nets, K-12 dollar follows the student, school districts saying deal with attitude, if cannot deliver support to classroom, government big $s in place, seeing it. Depts. Dismantled or messages to them, rural boards first, private interests will come in and do. Legacy issues. Seamless. Too many players not have it happen. Proprietary software. Dennis: different perspective, not a done deal, within supt. level, some not bought in. Not owe anything, society is not the customer of student. Fundamental beliefs still there, although still struggling to get on the bandwagon.

Labor Force and conversations over the last few days, differences between education and training. Technology as integrative process: set the quality of presentations. Comment on IT depts. Directed technology, different, their program created to support technology base, everyone there had been recruited from classes, one of the challenges that they had, salaries, hard to sustain quality. Basics of what people

entering industry, teaching tools at first, then shifted, how and what skills were essentials, without fear a number of courses, p.c. and Mac. From first learners to advanced education. Adapted with the industry, reflected changed, professionals about 150 faculty in the industry. Pertinent information, super stars, VRML, really nice things about the program. Not everyone is a teacher, super stars, good teachers. Age groups 16 to 72. Gender mix 5 years ago, last two years 55% women, different in MM. from it. Which is technology.

Training new people, feel that not hurt computer, not hurt them, and not humiliate. New tools and language. Hard if esteemed professionals, humbled, computer industry, and computers are terrible machines, bad performance, barely useable -- primitive. Not your faults that cannot figure out interface and design issue. Instill the fact that not their fault. Technical people condescending, people moving into foreign land. In addition to allaying fear also communicated that have fundamental information and knowledge that they can communicate. Hawthorne effects excitement about newness. Let people get excited. P.C. basics, navigate and save files. Everyone gets a picture. Novelty changes job as teachers, understanding and taking advantage to wow people into seduction.

Other point: skills, ability to adapt rather than learn a particular tool. Adapt to technologies, how to use and learn. How to figure it out, in early days punch cards, then command line, now have GUI, comparatively learn, navigate global information structure, in theory become easier to use. In next 3-4 years as processing power improves, cognitive responses etc., simpler to use. Recently at IBM conference, demonstrating new p.c., palm pilot size, 400mg, 10 gig hard drive, voice activated software. Next step, keyboards and mouse gone. Natural speaking, view content, little glass piece, size of dice. Excessive re: computers, not run out of uses for horsepower. Pushing CPUs do not need, still need more processing power--no interface involved. Tool, access information. Communication, Gates will never need more than 640k memory. Late l950s need to have six only computers, mind set, end up where cannot predict. Potential. Need to realize in intermediary step. Most valued will be creativity. Certification courses, just stop it. Temporary. A few more years.
Walter: training issue, facing at Shaw, pay attention re--industry in preparing for specialized situations. Took the title to be prep. for future, June l997: CabotÕs landing, celebration. Canada not discovered by Europe and Asia, if E. and A. progressed, but if Canada pristine, who would come today. Ecotourists. Conventional reasons for settlement, c prices lower for minerals, etc. Oil recovered. Mme. Bardot versus fur. 30million people want to remain here, future in capacity to generate i.p., first world existence born in commodities, labor force of the future. Not think in terms of labour force, productive pop. Different approach required; to ensure systems designed to ensure that we don't dumb down the population, create systems that help create our context. We can no longer select a small portion of the population to contribute to the society - rather we need to ensure that everyone can contribute to their best ability. Quote from St. mark - if a man would gain his life he must first lose it.

Peter: use technology to empower societal change; worked for metro screen in Sydney - could hire equipment to make videos and do introductory train courses. Had to turn the institution into a business in order to help it succeed and survive. Accredited all the courses and charged high tuition fees updated the equipment with Gov. support and increased the business to over $1 M annually. Accreditation was important; emphasis on access and creativity was impotent. Industry imput important too. Skill orientation only, is limiting for the learner so a balance is important. Freedom, access to technology and promoting creativity.

Discussion: focus on process not only tools and content. Ensure that there are opportunities for process to be learned. Be about the business of start-ups, intellectual economy that can produce strongly in Canada. IP produced--bad at getting it to market. Constantly overvalue ideas and undervalue others capital, idea mine, form and shot out...good education system, can we reform and rebuild it, one piece. One reason, multicultural also important.

Dennis: in large part the worker of the future, knowledge worker, will have the ability, work and leisure will be interchangeable. Decide when want to work, when be at leisure, knowledge and brain power, sell when want to, large portion of population no longer goes anywhere to work, pension plans, etc., school system in baby sitting side. What will happen when takes place, think now, how changes what design? Ghost office buildings. Not to mention that people will want to leave the city. Sara: people will choose to live in places like Canmore, choose the environment that they live in. Tariff: will people want to be together, in family in electronic cottage industry. Smart communities project, see the evolution, new models. Allyn: one of examples telecommuting in work base, Adobe Systems, redesigned spaces, Twin Towers,San Jose, Telecommunities. Spaces are different, parallels in future of education environment. Attention to activities that enhance a working process, another space. Shopping not buying, simple things like visitors, carpets are colour coded, change people where to take people and where not, organization of work space. Not deserted. For fun..design..Not turning up to office, wonderful for sanity...Discussion that mediated better than face to face. Social reason. Classroom, visiting child is possible, mediated. Breaks boundaries. IF telephone rings in conversation and is privileged, face to face . New ways to communicate. Use networks to lever face to face. Also add communication to connect. Create community and learn. Manage all communications streams higher order.

Telus Learning Connection: An Educational Internet Alliance
With Brian Cleary Manager Telecollaboration Projects and Catherine Kullman, Team Leader, Telus Learning Connection
(get PP slides - good intro)
Technology in some Alberta schools at Netscape 2 level. Teachers love text pages of static links. Teachers dislike search engines.
www.2learn.com designed to meet different level of teacher needs.
Start with static pages - e.g. enjoy pages - most hit by international visits
See search engines page - simple teacher language tutorial including guides to using in teaching.