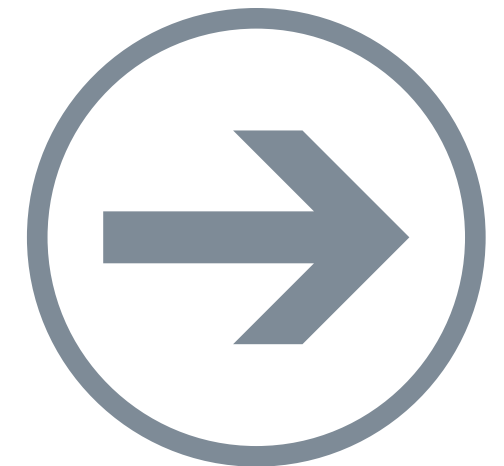


Creating a sustainable infrastructure for online learning

David Porter
Executive Director
BCcampus.ca

Vancouver, BC, Canada
www.bccampus.ca



Welcome to Vancouver

 Our knowledge grows daily about

 Online learning

 Communities of practice

 Performance support

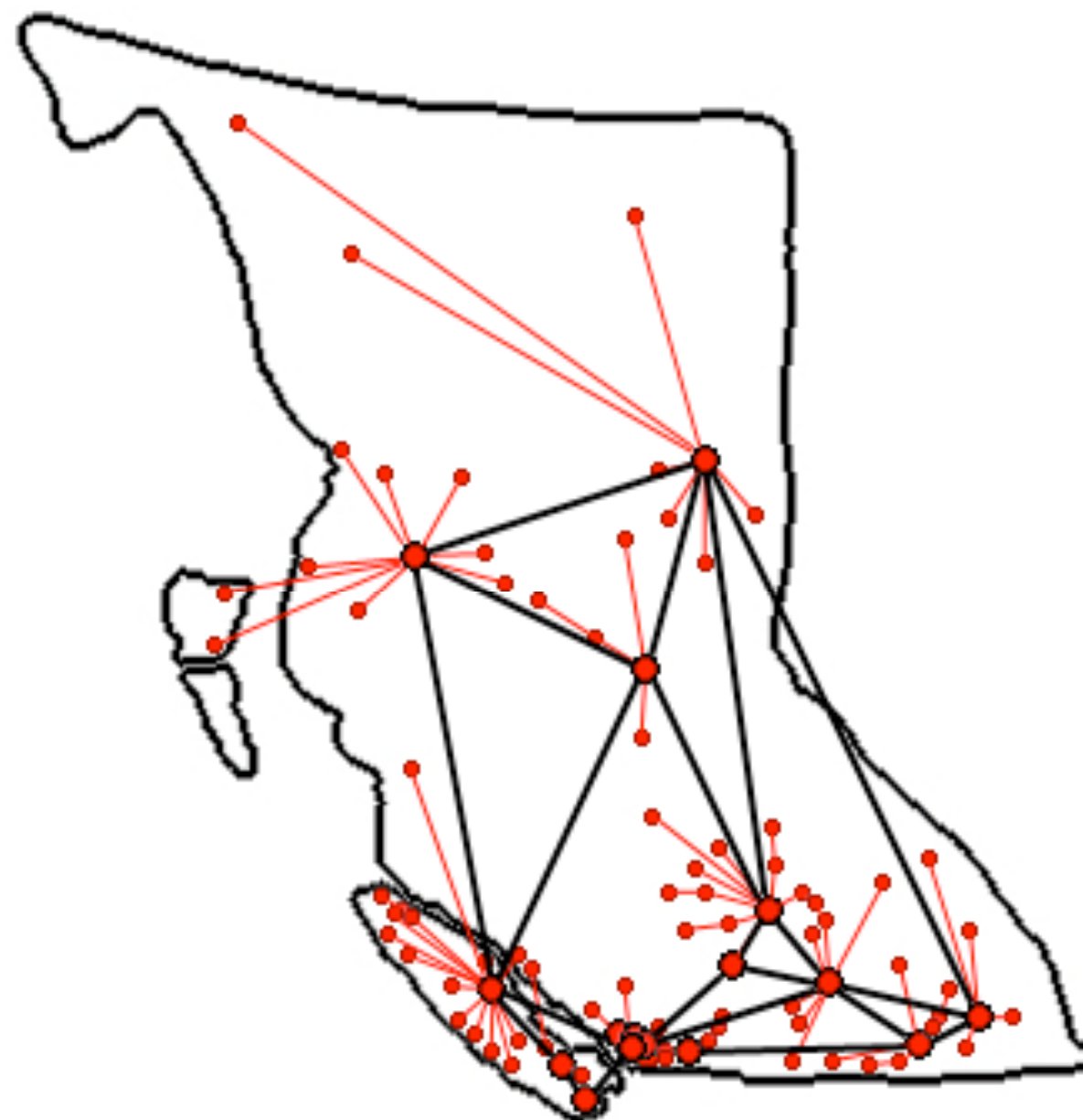
 Knowledge management

Conferences such as E-Learn05 provide us a gauge against which to measure our knowledge in the learning and training domains

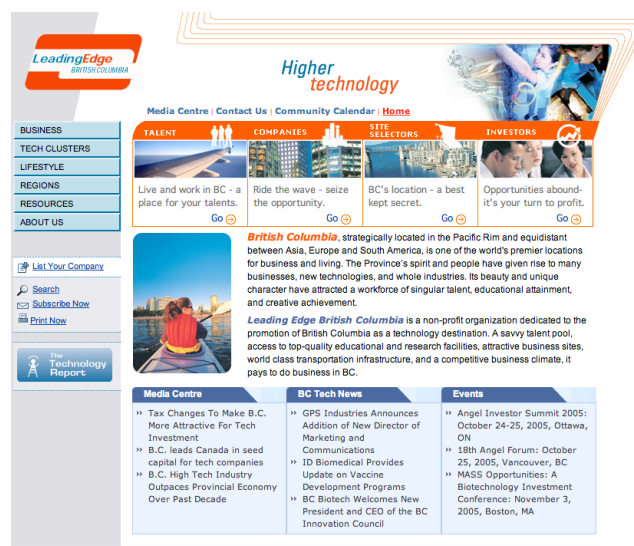
E-Learn05 also allows us to see how learning and training strategies develop in different contexts and climates

Welcome to British Columbia

- ❖ **Canada's Pacific Rim province**
- ❖ **Home to 26 autonomous, public post-secondary institutions, widely separated by severe geography**
- ❖ **Universities, colleges, technical institutes, art schools**
- ❖ **Institutions that are all active in the use of e-learning as a program and course delivery strategy**



Vibrant knowledge community



NEW MEDIA BC



❏ E-Learning is high on the technology agenda of government

❏ History of high-tech success stories

❏ We have proactive and supportive marketing agencies and associations

❏ Leading Edge BC

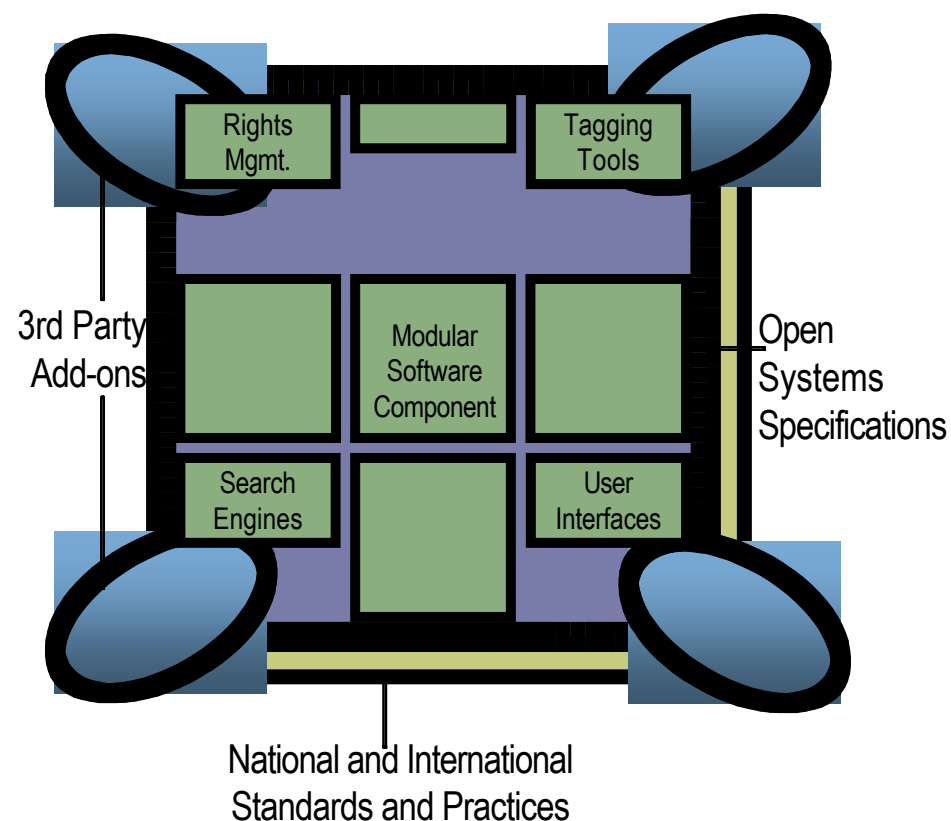
❏ NewMedia BC

❏ eLearningBC

E-Learning research abounds



CANADIAN NETWORK
OF LEARNING OBJECT REPOSITORIES



Research agenda

Use, reuse, and reengineering of digital knowledge resources

National projects

LORNET



VANCOUVER 2005
 2nd Annual Scientific Conference - LORNET Research Network
I²LOR-05
 November 14th -18th, 2005, Simon Fraser University, Vancouver
Intelligent, Interactive, Learning Object Repositories Network

I2LOR 2005 - VANCOUVER : November 14 – 18, 2005
E-Learning for the Future:
From Content to Services

Online learning is Up here too



http://www.sloan-c.org/resources/entering_mainstream.pdf

- There is phenomenal growth worldwide
- US higher education statistics show an upward trend of 20% growth per year (Sloan-C data for 2003, 2004)
- In Canada, the statistics are similar or higher in British Columbia (Advanced Education data, 2004)
- Growth brings increasing pressure for performance gains

Learner expectations are also up

❏ The Net has produced expectations for

❏ choice

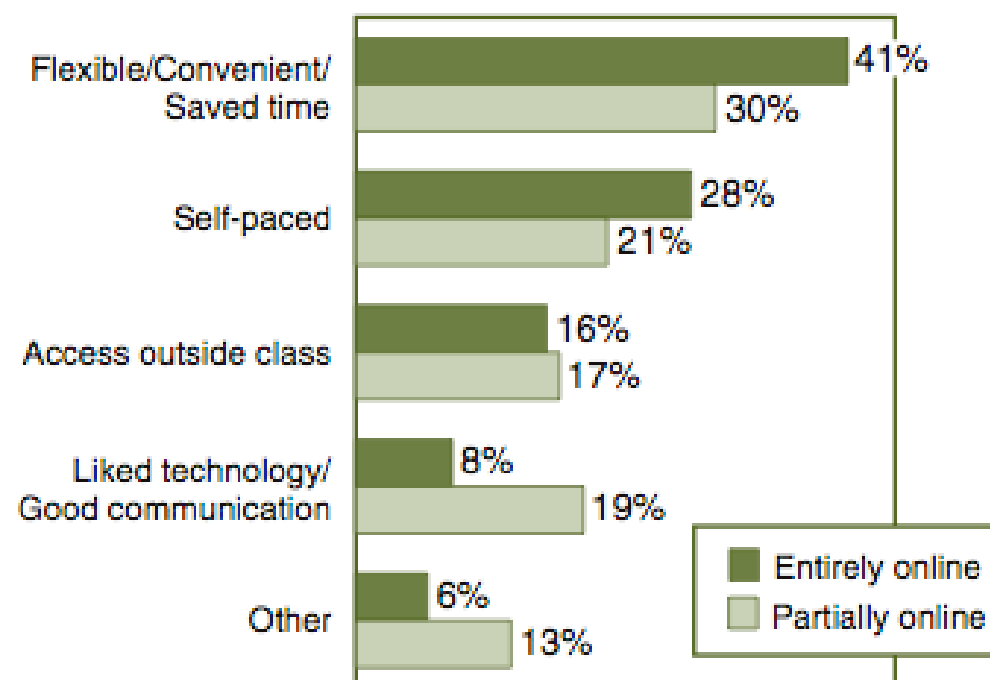
❏ flexibility

❏ immediacy

❏ responsiveness

❏ service

Of the respondents who made positive comments, many said they liked the flexibility and convenience of online courses



http://outcomes.bcstats.gov.bc.ca/Publications/collegereports/issue_distance.pdf

Particularly with the net gen

- ❏ Is there a need to retune our instructional practices?
- ❏ By observing the habits and practices of youth and relating them to the needs of learners within our organizations
- ❏ By rethinking content use, reuse, and reengineering practices

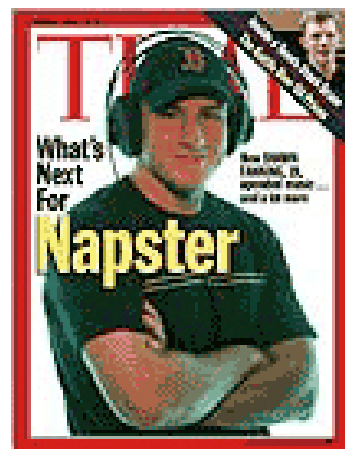


RESEARCH. REVIEW. REMIX.

Lessons from the web gen

“... his program does everything a Web application is supposed to do: it builds community, it breaks down barriers, it’s viral, it’s scalable, it disintermediates ...”

TIME Magazine,
October 2, 2000



What began as a threat to intellectual property has spawned a multimillion dollar business based upon packaging and micro-commerce models that work for the websters



THE CHRONICLE OF HIGHER EDUCATION

Today's News

Friday, October 21, 2005

Stanford U. Makes Podcasts of Lectures, Games, and Music Available Through Apple's iTunes

Think differently - expansively

Other lessons from the web generation

Peer-to-peer computing

Users like to try before they buy

Interoperability

Users like to buy by the piece

Collaborative tools

Users like mix and match

Self-publishing

Users like to reshape and repurpose materials

Self-managed collections

Users want to share

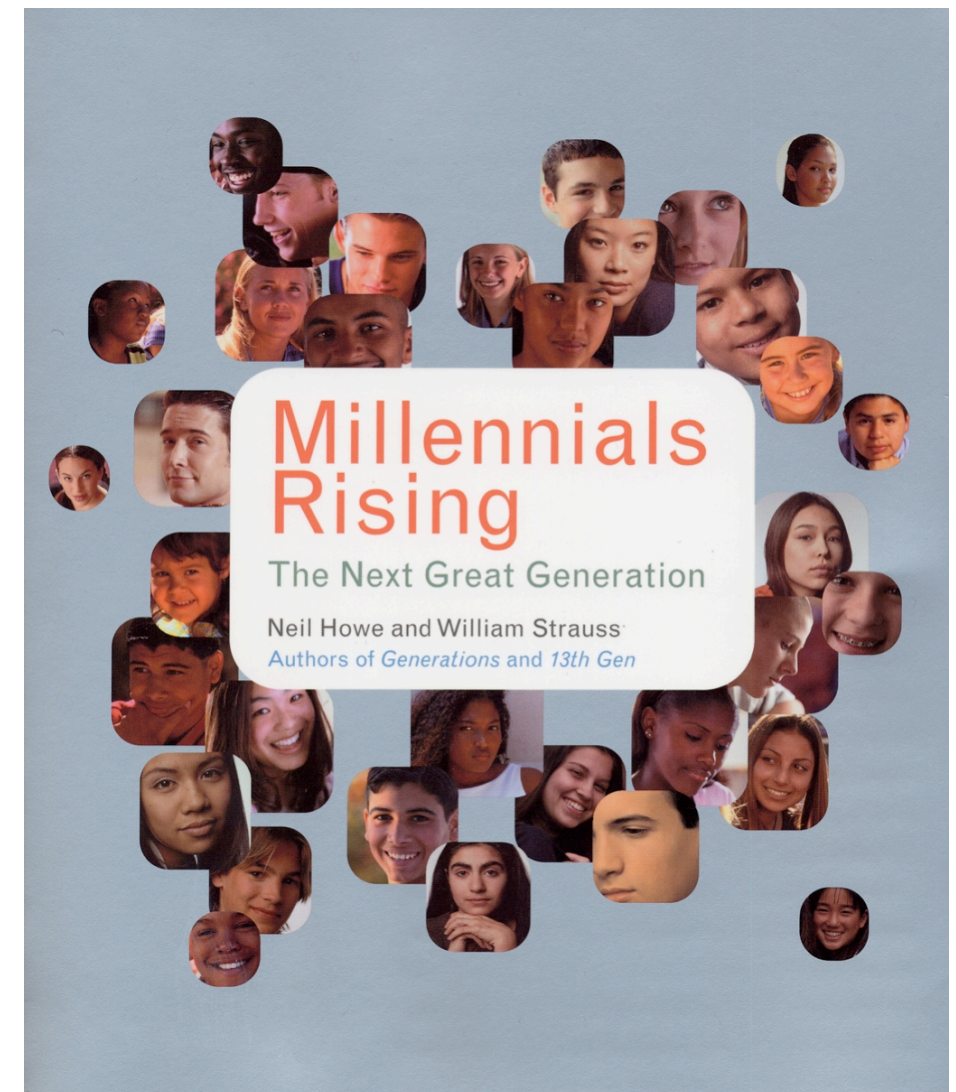
Users like to publish their own “mixes”



Millennial habits to note

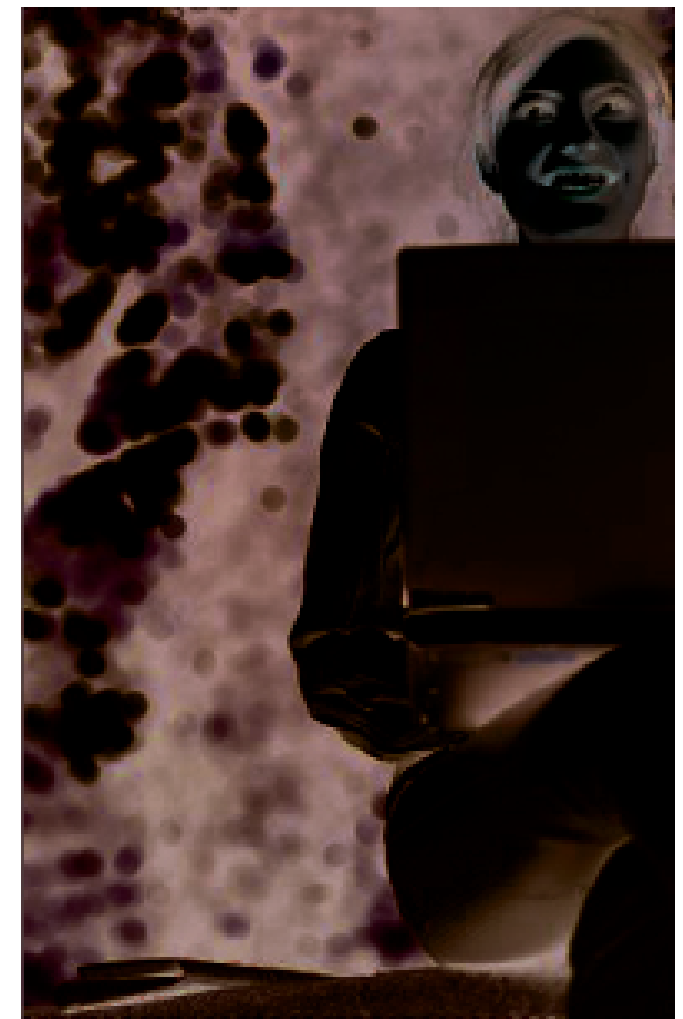
❏ Howe & Strauss (2000)

- ❏ Learners of this generation are more web savvy than their parents (supervisors or instructors)
- ❏ Learners of this generation are more social learners than their parents' (managers' or instructors') generation
- ❏ Statistics on Internet use map out these trends



And, there's more to know

- ❖ New social and cultural trends related to technology, communication, learning, and knowledge management are also emerging
 - ❖ Open Source thinking
 - ❖ Open Access thinking
 - ❖ Community Source thinking







Sustainability is a looming issue

- ❖ As online education becomes mainstream
- ❖ Support requirements are increasing and becoming more sophisticated
- ❖ Support systems may also be pushing institutions into areas beyond their core competencies

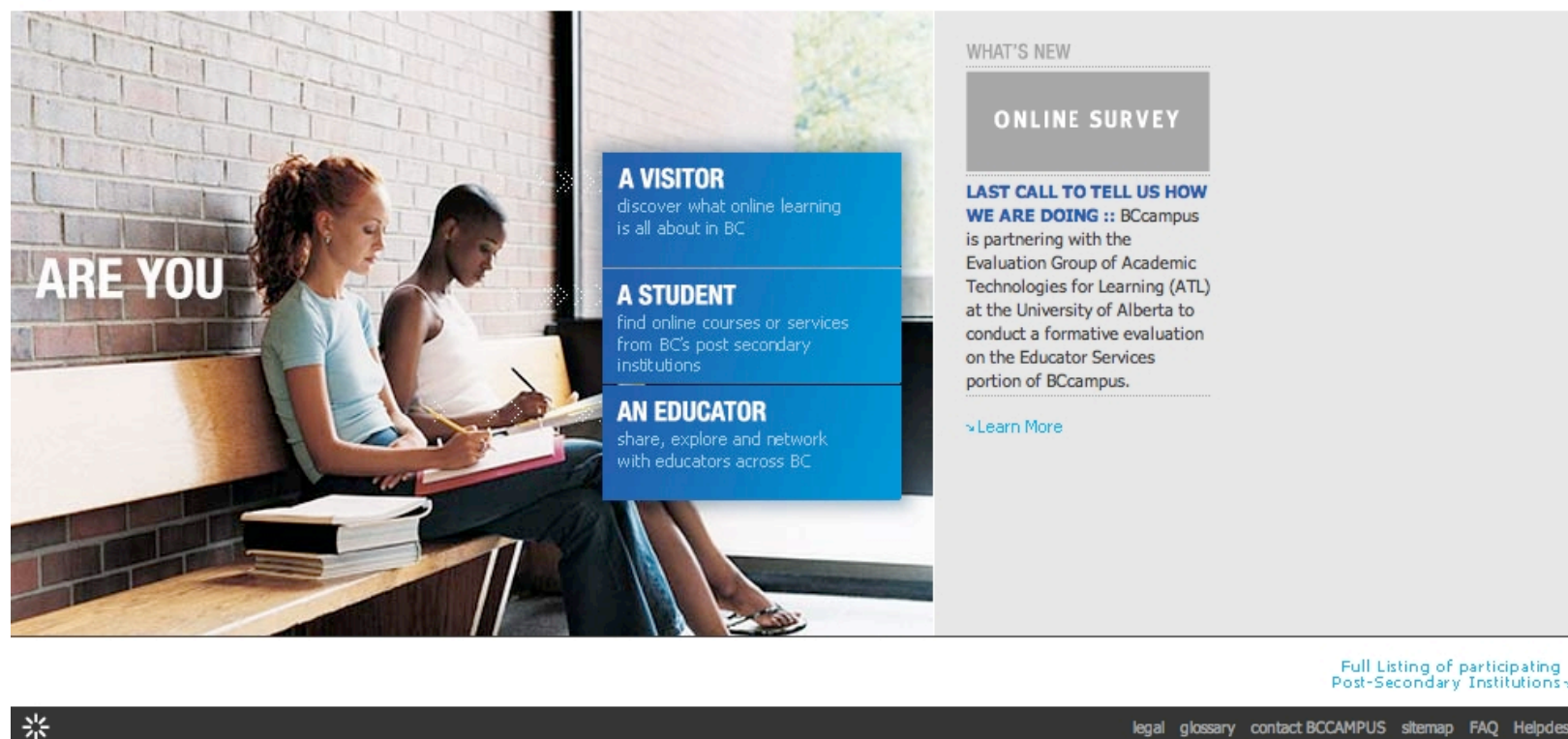
IMPLICATIONS FOR

Faculty
Instructors
Developers
Student services
Technical systems
Libraries
Policy
Governance

BCCampus is a service aggregator

-  An “*Expedia*” for learners across 26 institutions
-  Access and mobility
-  Choice and flexibility
-  Single, system-wide sign-on for program information, advising, course delivery, and library services

 BCCAMPUS.CA



The screenshot shows the BCCampus website interface. At the top, there's a navigation bar with the BCCampus logo, a search bar, and links for 'MY BCCAMPUS' and 'LOGIN TO COURSES'. Below the navigation bar is a large banner featuring a photograph of two students sitting on a bench, looking at a laptop. Overlaid on the banner are three blue boxes with white text: 'A VISITOR' (discover what online learning is all about in BC), 'A STUDENT' (find online courses or services from BC's post secondary institutions), and 'AN EDUCATOR' (share, explore and network with educators across BC). To the right of the banner is a 'WHAT'S NEW' section with a link to an 'ONLINE SURVEY' and a 'LAST CALL TO TELL US HOW WE ARE DOING' announcement. At the bottom of the page, there's a footer with a small logo and a list of links: legal, glossary, contact BCCAMPUS, sitemap, FAQ, and Helpdesk.

BCcampus ecosystem

Public

Learners

Institutions

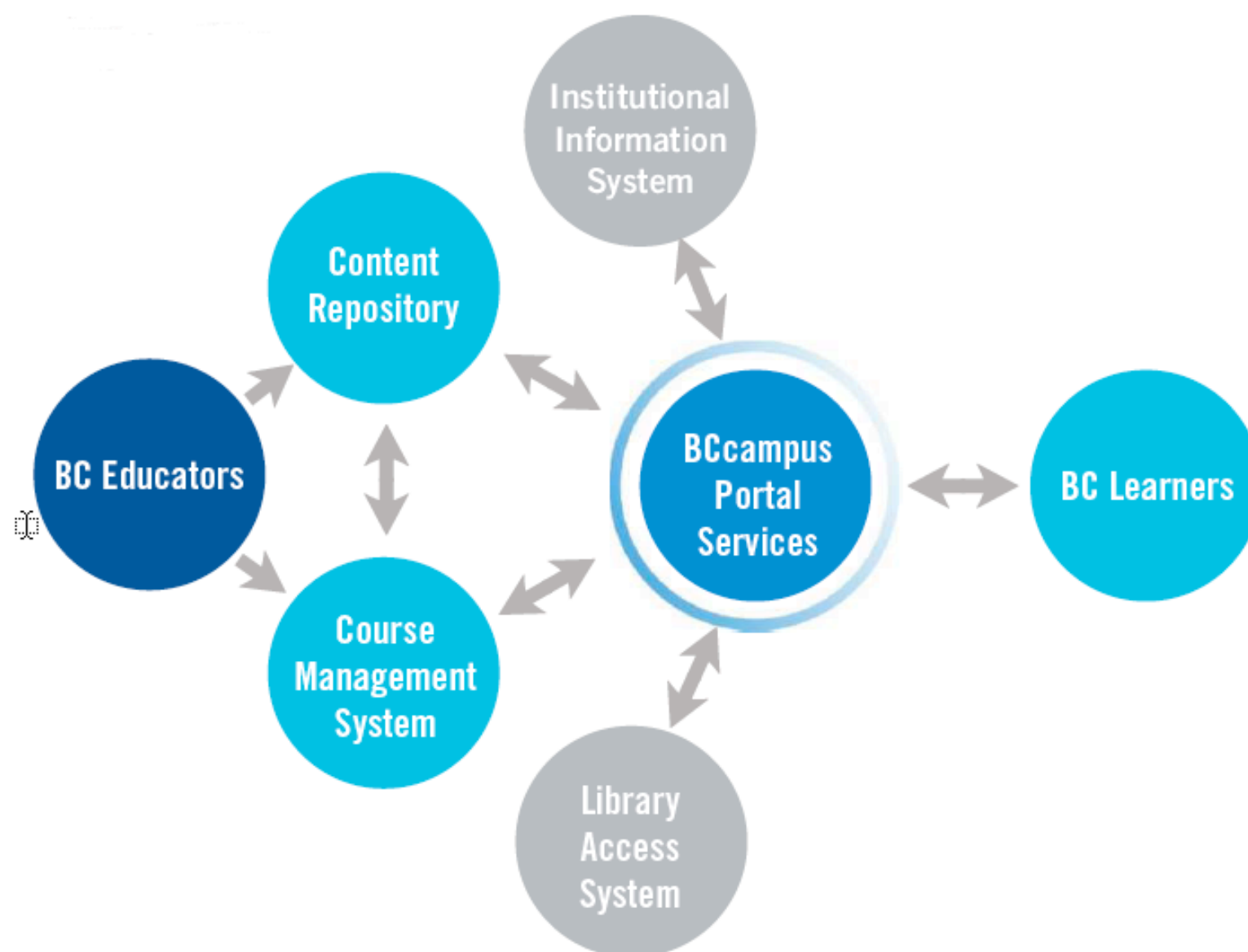
Faculty

Administrators

IT staff

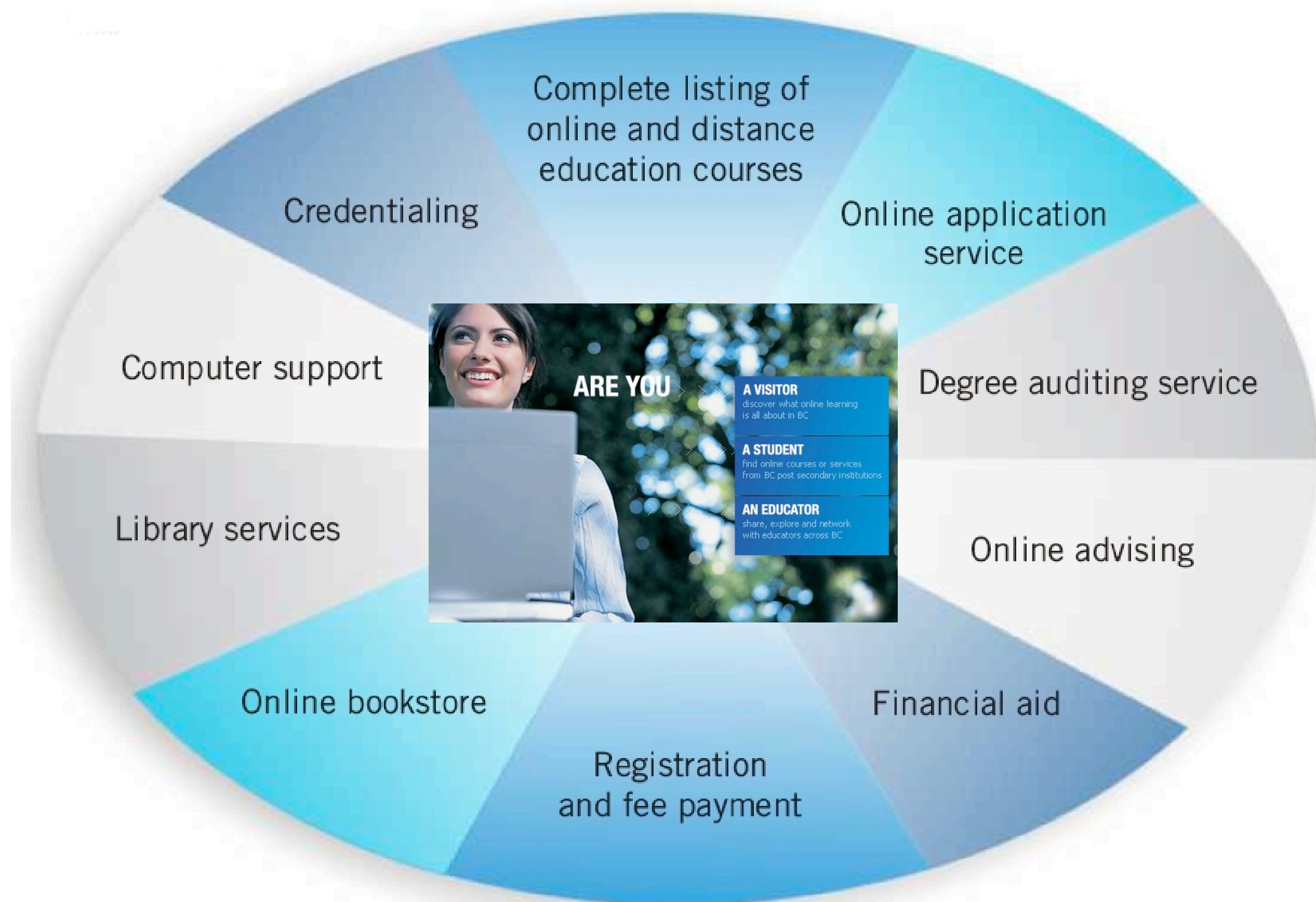
Policy makers

Governance
bodies







KEY TASK

Identify, communicate, implement, and measure a value proposition that resonates with each stakeholder group



We facilitate access to services

Text size:   Search BCCAMPUS.ca 

 BCCAMPUS.CA VISITORS :: STUDENTS :: EDUCATORS :: GATEWAY TO PORTAL ::

> BCCampus Home Page > Students > How Does BCCampus Work? :: FAQ helpdesk

STUDENTS

Programs and Courses
How Does BCCampus Work?
+Student Surveys
Getting Started With Your Education
How to Become an Online Learner
Student Services
About BCCampus

How Does BCCampus Work?

You, the learner, will register with your [home institution](#). Through BCCampus, you can access services, resources, and (most importantly) online courses from any number of participating institutions. Easy access to online courses will get you through your chosen program quickly and efficiently.

Currently BCCampus uses WebCT as its primary course management software. As BCCampus develops, we will integrate other course management software programs in the future. There are numerous quality resources to help students use the WebCT course platform and become better online students. The [WebCT orientation](#) will provide you with the information you will need to get started.

In addition, you have access to the Online Learner Community. This is an online community that offers you and other students a rich environment for collaboration, general interest, and special event use. Tools such as calendars, discussions, live two-way voice and video chat, as well as instant messaging are available. This provides students in online academic programs with a more fully online "campus" experience. Give it a try by selecting BCCampus Online Learner Community on the right hand side! Just remember to sign up using the email address given to you by your school.

[EducationPlanner.bc.ca](#)
Post-Secondary Options in BC
[Post-Secondary Application Service of British Columbia](#)
Online Application Form for BC's institutions
[Online Program and Course Finder](#)
Search all online post-secondary courses offered in British Columbia
[BC Student Assistance Program Online](#)
Financial Aid for BC Students
[Canada Student Loans](#)
National Student Loan Service Centre for Canadians
[BCCampus Online Learner Community](#)

 **Course and Program Information**

 **Advising**

 **Admission**

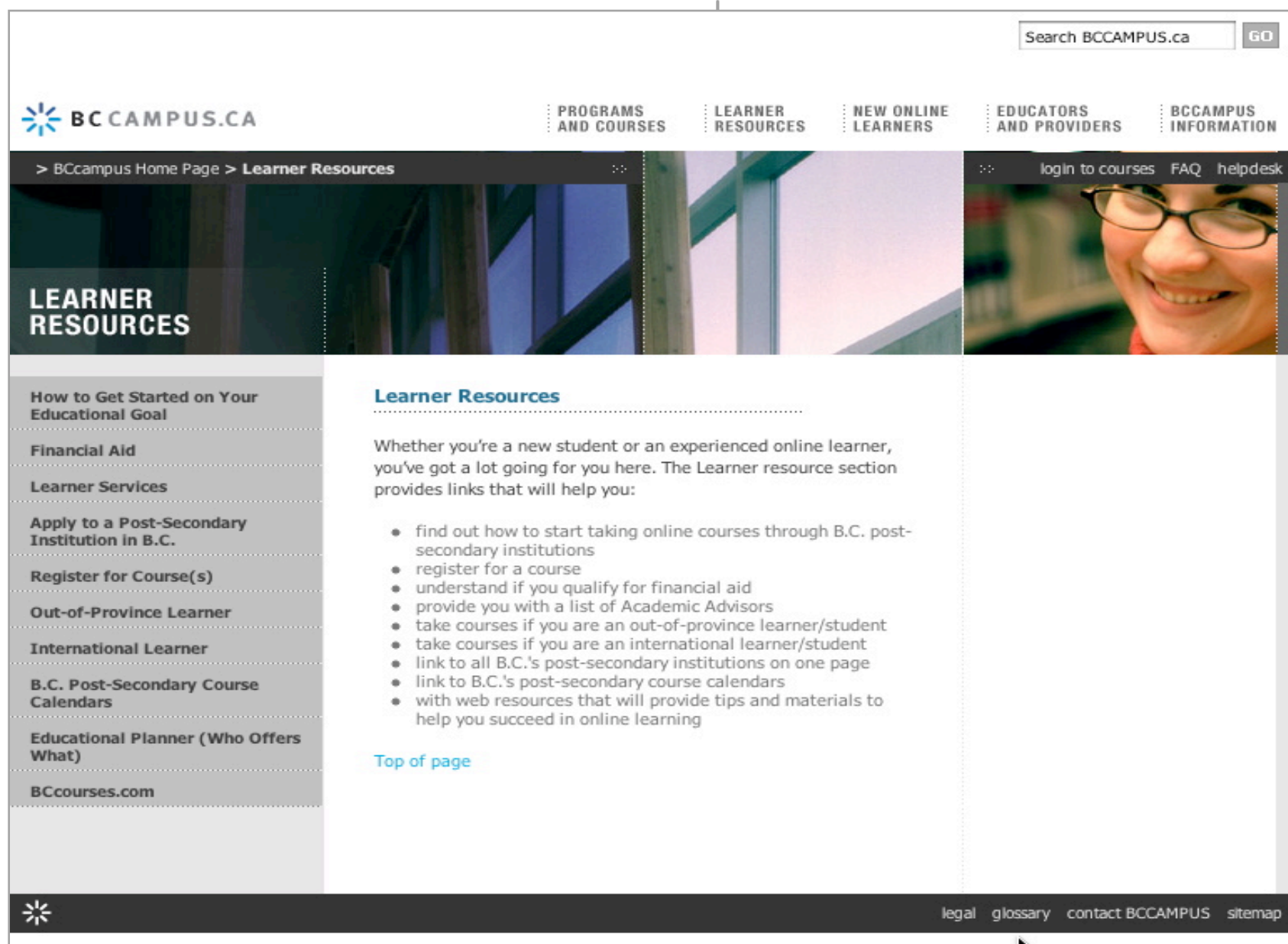
 **Registration**

 **Financial Aid**


 **Library**

 **Course Delivery**

In harmony with key principles



The screenshot shows the BCCampus website's 'Learner Resources' page. At the top, there is a search bar and navigation links for 'PROGRAMS AND COURSES', 'LEARNER RESOURCES', 'NEW ONLINE LEARNERS', 'EDUCATORS AND PROVIDERS', and 'BCCAMPUS INFORMATION'. Below the navigation bar, a breadcrumb trail reads '> Bccampus Home Page > Learner Resources'. The main content area is titled 'Learner Resources' and includes a sub-header 'Learner Resources' followed by a paragraph: 'Whether you're a new student or an experienced online learner, you've got a lot going for you here. The Learner resource section provides links that will help you:'. A bulleted list follows, detailing various resources like starting online courses, financial aid, and course calendars. A 'Top of page' link is visible below the list. On the left side of the page, there is a sidebar with links such as 'How to Get Started on Your Educational Goal', 'Financial Aid', 'Learner Services', 'Apply to a Post-Secondary Institution in B.C.', 'Register for Course(s)', 'Out-of-Province Learner', 'International Learner', 'B.C. Post-Secondary Course Calendars', 'Educational Planner (Who Offers What)', and 'BCcourses.com'. The footer contains links for 'legal', 'glossary', 'contact BCCAMPUS', and 'sitemap'.

 **Learners have service interactions in real-time with teaching institutions**

 **Institutions manage their own admission, registration, and academic processes**

 **Institutions manage their own branding**

We work with system partners



EDUCATIONPLANNER.BC.CA
EXPLORE YOUR POST-SECONDARY OPTIONS IN BC.

home program search for students for educators sitemap comments

About Education Planner
Education Planner is endorsed by the public post-secondary institutions of BC, managed by the BC Council on Admissions and Transfer, and funded by the BC Ministry of Advanced Education.

Program search
Information on undergraduate program availability, application dates, tuition costs, admission requirements, lengths, and much more at BC's 27 public post-secondary institutions.

To begin, select a search filter:

- field of study
- subject area
- length of program
- region
- institution
- credential level
- credential

Also check out...
Other websites of interest:

- BC Transfer Guide
- PASBC
- BCCampus
- BC WorkFutures
- Student Outcomes

Focus Now
Program searching by focus area for grade 10-12 BC secondary students:
[get started ...](#)

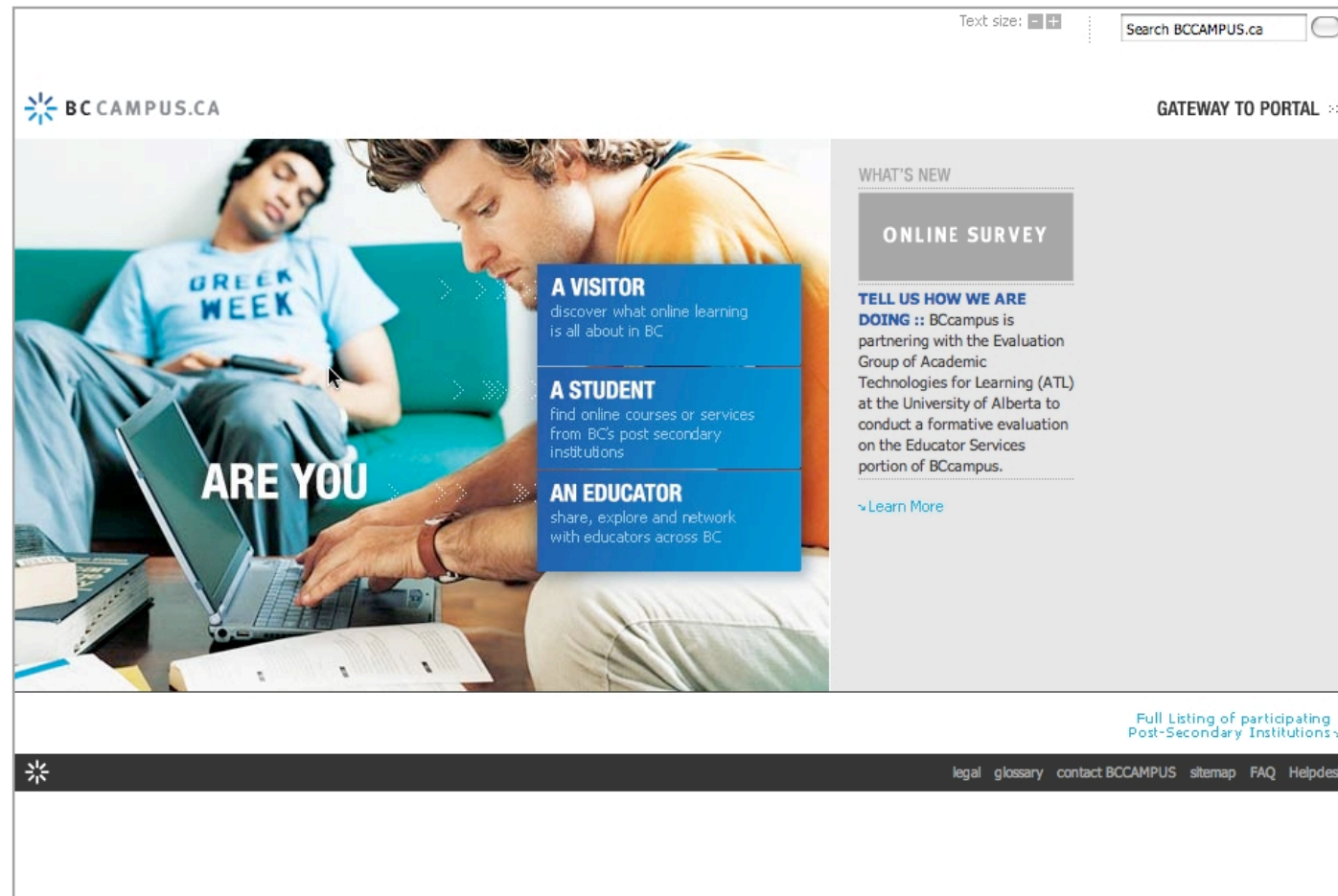
Apprenticeship
Information on BC's apprenticeship and pre-apprenticeship programs:

- Pre-Apprenticeship program search
- Apprenticeship Information & Contacts


Announcements
Education Planner will be involved in several events over the next couple of months. These events include the Career Management Association Conference. the

Hey you!
Learn more about:
[Advisors and Counsellors](#)

BCCAT Education Planner



BCCAMPUS.CA

Text size:  Search BCCAMPUS.ca

GATEWAY TO PORTAL

WHAT'S NEW

ONLINE SURVEY

TELL US HOW WE ARE DOING :: BCCampus is partnering with the Evaluation Group of Academic Technologies for Learning (ATL) at the University of Alberta to conduct a formative evaluation on the Educator Services portion of BCCampus.
[Learn More](#)

ARE YOU

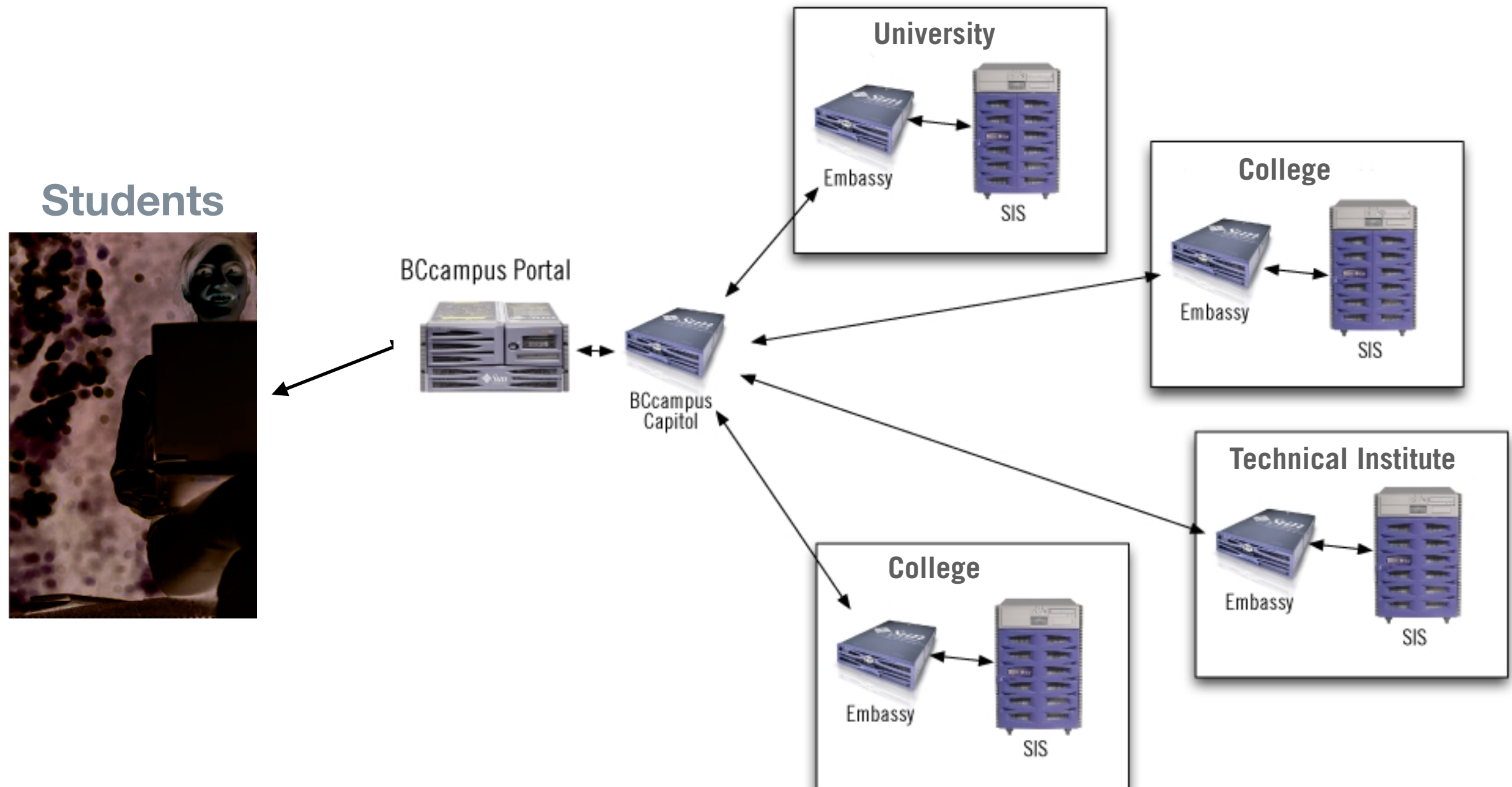
- A VISITOR**
discover what online learning is all about in BC
- A STUDENT**
find online courses or services from BC's post secondary institutions
- AN EDUCATOR**
share, explore and network with educators across BC

[Full Listing of participating Post-Secondary Institutions](#)


legal glossary contact BCCAMPUS sitemap FAQ Helpdesk

BCCampus Web Site

We enable real-time services



Members drive key processes


 MY BC CAMPUS

Welcome **Guest**
to myBCcampus Online Courses & Services

Login [Forgot your password?](#)

[Welcome](#) [Create an Account](#) [Select Province-wide Programs](#) [Select Institutional Courses](#) [Apply for Admissions](#)

Welcome to myBCcampus



Students

Create a myBCcampus account to access:

- course and program listings
- admission to institutions
- chat online with an advisor
- simple online registration
- access to online courses
- access to an online library
- online student community

What's New?

Chat with other students! Join the online student community. Coming soon in mid-March, 2005.

Easter Holidays - March 25 - March 28, 2005.

Copyright (c) 2005 BCcampus

helpdesk@bccampus.ca or call toll free 1-866-443-4447



Students
become
authenticated as
learners *in good
standing* with BC
post-secondary
institutions



Educators are
authenticated for
access to
community of
practice services

Members initiate activities

Search for courses using the Course Directory

Speak with an advisor




Find out about financial aid

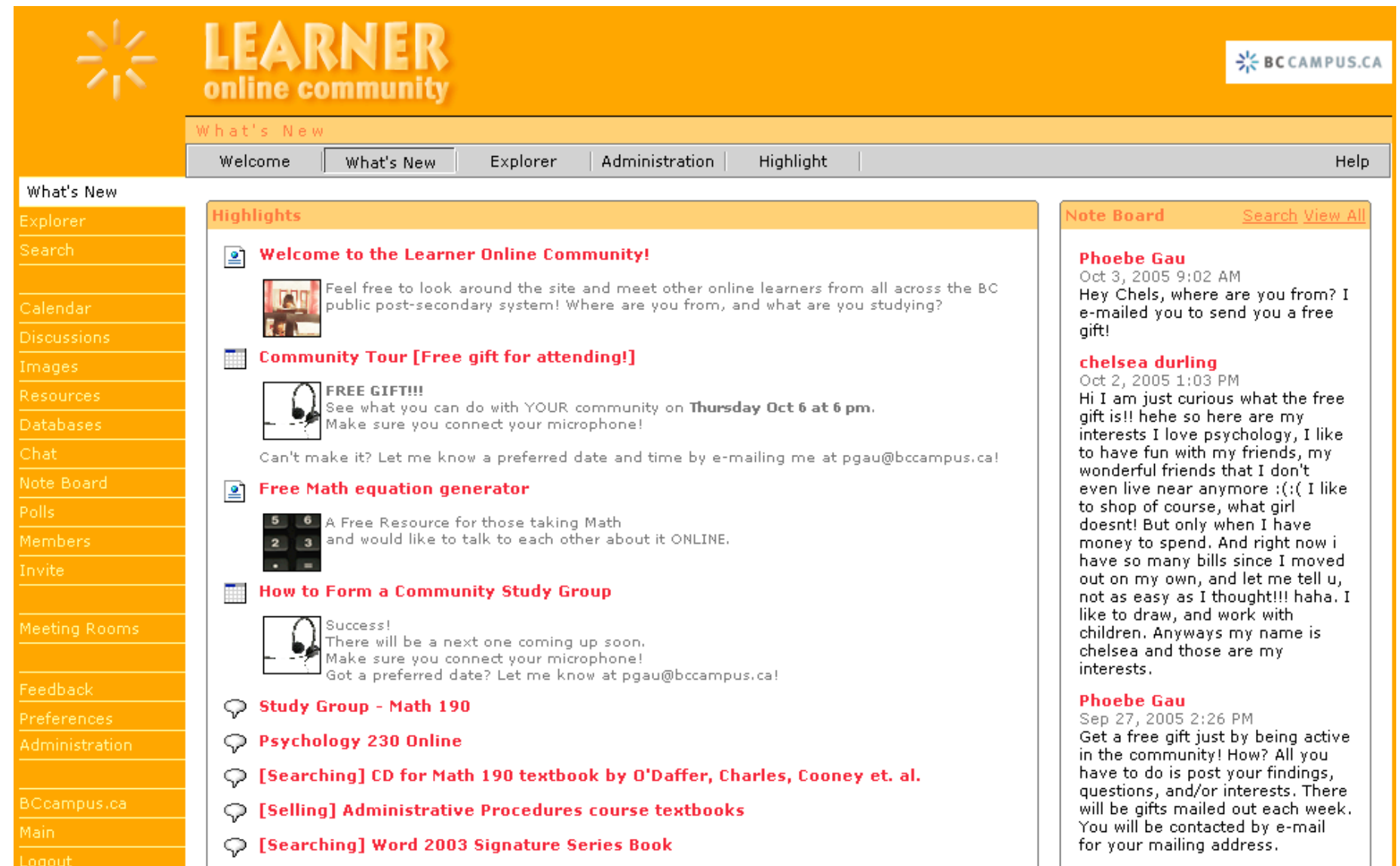
Register for courses

Take courses

The screenshot shows the BCcourses.com website. At the top left is the logo "BCcourses.com". Below it is a yellow arrow pointing right. To the right of the arrow is a search box with the text "SEARCH BCcourses.com" and "*required field". Below the search box is a text input field for "Search by course, subject area, institution or keyword(s)*". Below that is a dropdown menu for "Institution". To the right of the dropdown is a "SEARCH" button. Below the button is a link for "advanced search". To the right of the search box is a blue banner that says "WELCOME TO BC COURSES". Below the banner is a paragraph: "This directory includes over 1806 distance education credit courses offered by 27 BC public post-secondary institutions." Below that is another paragraph: "Over 912 of these courses are available online. Some are print-based correspondence courses. Others may be delivered by more than one technology." Below that is a link for "BC COURSES IS A PART OF" followed by the BC CAMPUS.CA logo. At the bottom left of the page are links for "Getting Help" and "Data Provider Login (Institutions only)". Below these links is a paragraph: "Institutions are responsible for maintaining the currency of their course information. ©Copyright 2004".

Join communities of interest

-  An initial student community has been created by co-op students
-  It operates in a manner similar to the BCcampus educator online community
-  The community offers study groups and other student-directed support services

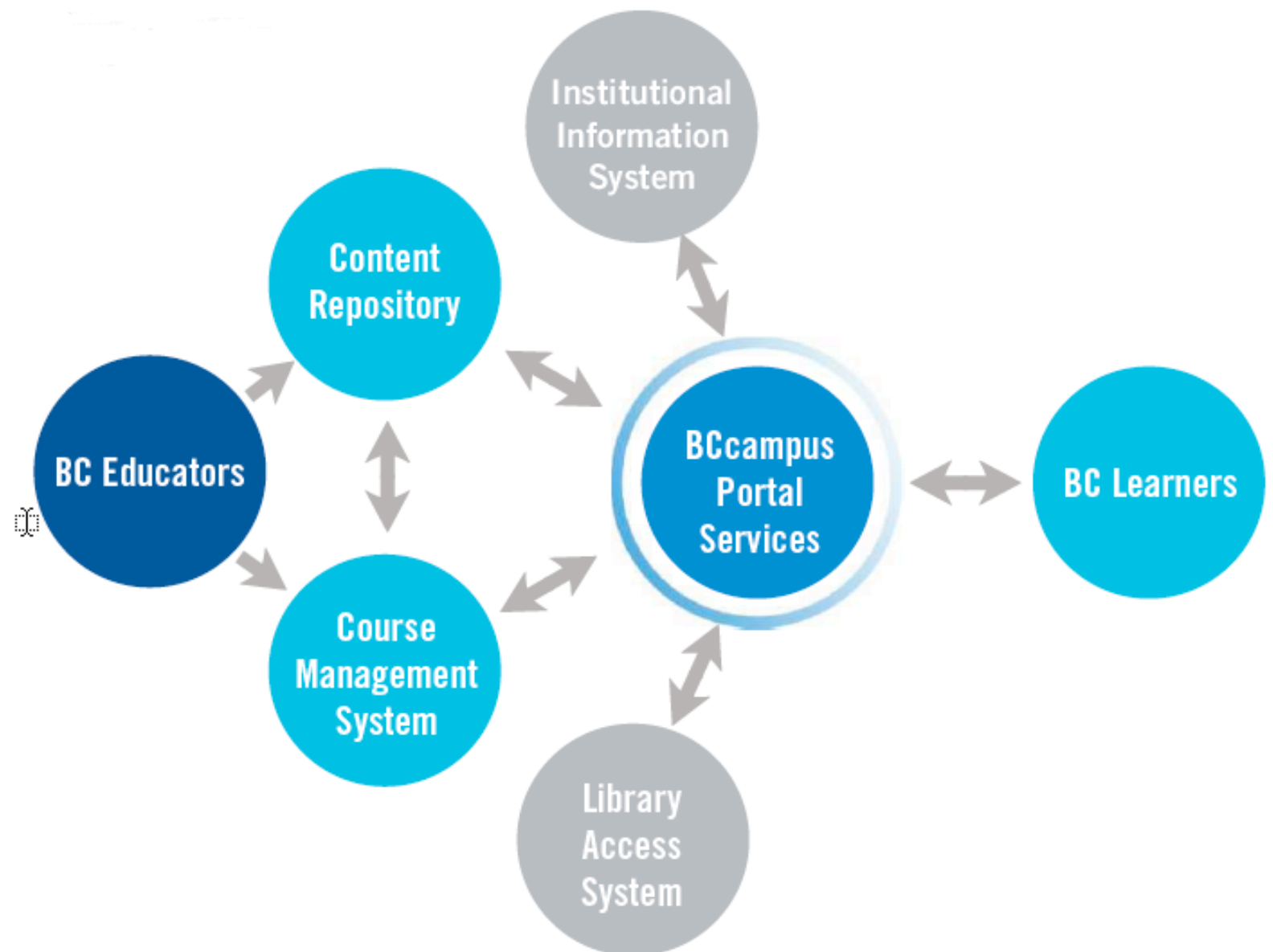


The screenshot shows the 'LEARNER online community' website. The header is orange with the 'LEARNER online community' logo and the BCCAMPUS.CA logo. Below the header is a navigation bar with links: Welcome, What's New, Explorer, Administration, Highlight, and Help. The main content area is divided into three columns. The left column is a sidebar with a 'What's New' section and a list of links: Explorer, Search, Calendar, Discussions, Images, Resources, Databases, Chat, Note Board, Polls, Members, Invite, Meeting Rooms, Feedback, Preferences, Administration, BCCampus.ca, Main, and Logout. The middle column is titled 'Highlights' and contains several announcements: 'Welcome to the Learner Online Community!', 'Community Tour [Free gift for attending!]', 'FREE GIFT!!!' (with a calendar icon), 'Free Math equation generator' (with a calculator icon), 'How to Form a Community Study Group' (with a calendar icon), and a list of study groups: 'Study Group - Math 190', 'Psychology 230 Online', '[Searching] CD for Math 190 textbook by O'Daffer, Charles, Cooney et. al.', '[Selling] Administrative Procedures course textbooks', and '[Searching] Word 2003 Signature Series Book'. The right column is titled 'Note Board' and contains two posts: one by 'Phoebe Gau' dated Oct 3, 2005 9:02 AM, and another by 'chelsea durling' dated Oct 2, 2005 1:03 PM. The 'Note Board' section also has a 'Search View All' link.

We link educators with services

✦ In the context of sustaining the development and sharing of high-quality online resources, we enable ...

- ✦ Program development funding
- ✦ Resource reuse licensing models
- ✦ Community-based tools and resources
- ✦ Forums for participatory support systems



Help make sense of technologies



LMS

LCMS



KMS



DRM

XML

SOAP



WSDL

 Technical systems

 Specifications

 Standards



Harnessing network power

❏ *“A network in general behaves in such a way that the more nodes that are added to it, the whole thing gets more valuable for everyone on it because all of a sudden there's all this new stuff that wasn't there before...you see it on the Internet all the time. Every new node, every new server, every new user expands the possibilities for everyone else who's already there.”*

❏ Marc Andreessen, one of the founders of the web

Metcalfe's Law

The value or power of a network increases in proportion to the square of the number of nodes on the network

Enabling reuse as a strategy

How do we enable systemic reuse of valuable instructional resources?

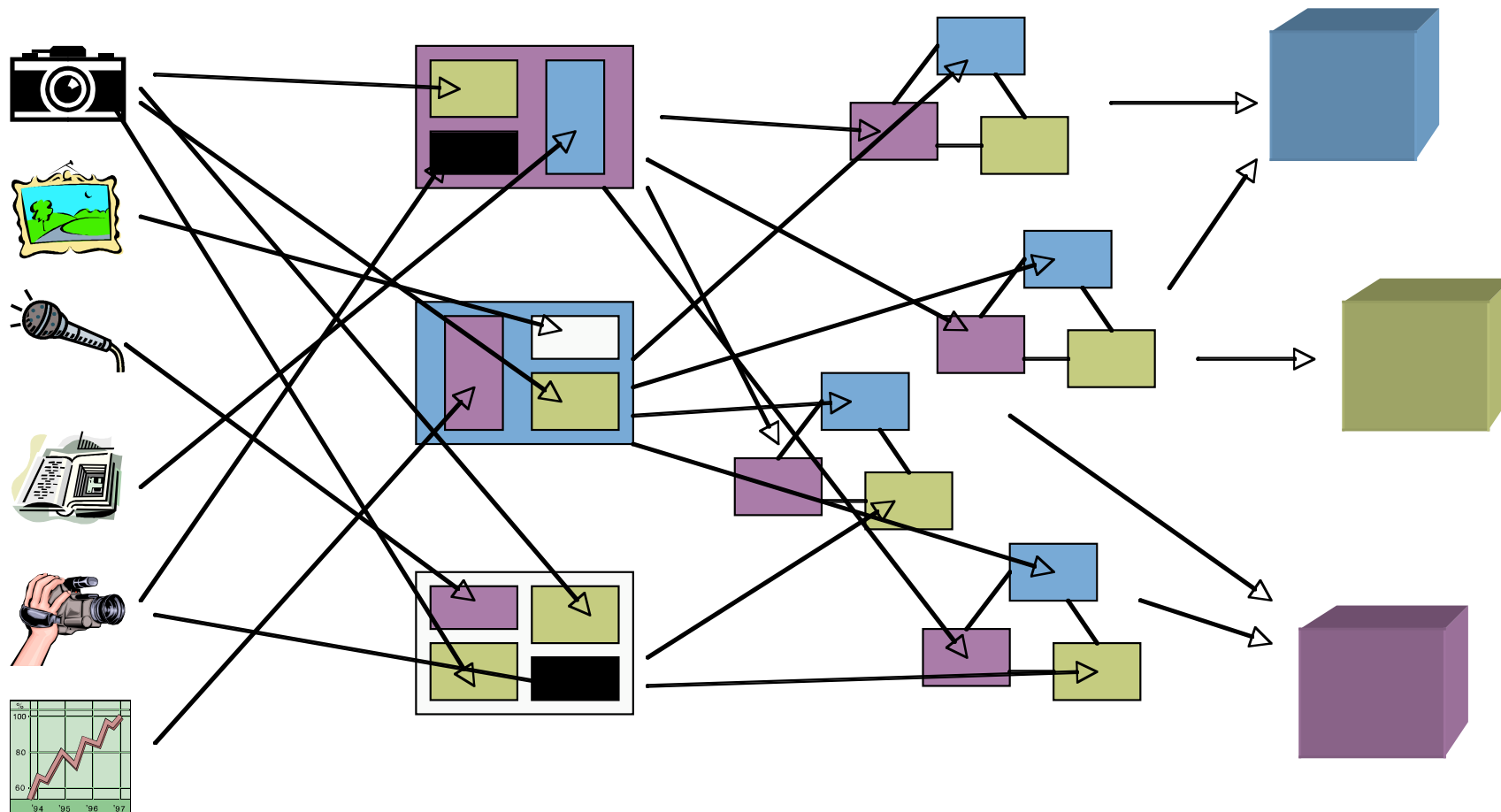


Media

Lessons

Units

Courses



Funding program development

❖ The Fund

❖ \$4.5M fund provided by AVED

❖ Rounds of \$1.5M each in 2003, 2004, and 2005

❖ Online programs, courses, virtual labs, and technologies


❖ Inter-institutional collaboration and partnerships

❖ *Requiring a sharing and reuse licensing agreement from faculty and developers*



Harnessing community



 What are the tools and what are the practices that will allow us to harness community effectively?

 Utilize participatory design models

 Model the use of collaborative tools

 Webcasts, telepresence

 Experiment with the newest tools

 Podcasts, videocasts

Providing community services



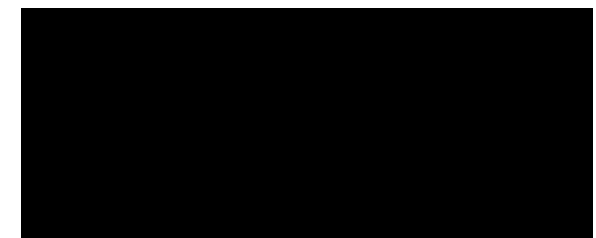
The screenshot shows the BC CAMPUS.CA website interface. At the top, there is a navigation bar with the BC CAMPUS.CA logo and the text "EDTECH ONLINE COMMUNITY > > >". Below this is a "What's New" section with a blue header and a list of links: Welcome, What's New, Explorer, Highlight, and Help. The main content area is divided into three columns. The left column contains a sidebar with links: What's New, Explorer, Search, Calendar, Contributions, Discussions, Files, Note Board, Mailing Lists, Polls, Images, Lists, Chat, Members, Invite, Training Room, Meeting Room, Virtual Offices, Affiliates, Feedback, Preferences, and BCcampus.ca. The middle column features a "Highlights" section with several items: "Kool Tool Course Builder", "ePortfolios @ UBC", "Webcast Recording - Learning Object Authoring Templates - Timeline Tool", "Inventing Learning Everyone Will Love", "Webcast: The Learning Landscape: A Conceptual Framework for E-Portfolios", "Audio Descriptions of Online Program Development Fund Projects", and "Online Teaching with WebCT". The right column contains a "Search" section with a search box and a "Note Board" section with a "Search View All" link. The "Note Board" section displays a post by Amanda_Harby dated Oct 13, 2004, and a post by mcclark dated Oct 5, 2004. At the bottom, there is a "Calendar" section with a "Search View All Add" link and a list of events, including the "knowTIPS Online Conference: Call for Presenters".

Providing online support for communities of interest and practice

Supporting training and dissemination of best practices for learning and technology

Promoting and supporting collaborative program development models

Making libraries of licensed reusable academic resources accessible



Establishing licensing models





- ❖ Intellectual property (IP) held by developers – faculty, institution, or both
- ❖ Copyright and distribution via Creative Commons or BC Commons licenses
- ❖ BC Commons is a regional consortia derivative of Creative Commons
- ❖ Up-front system for Open Source-like sharing, reuse, modification and distribution

Providing a resource repository



Logged in as dporter [log out](#) [edit my details](#) [help](#)

 **SOL*R** | Shareable Online Learning Resources  **RESEARCH.REVIEW.REMIX.**

Resource Areas

SEARCH

 GO

- Guided Search
- Power Search
- Federated Search

CONTRIBUTE

- Home
- Contribute
- View / Edit My Items
- Assemble Plans

→ **Browse by Discipline**
Find learning objects, courses, tools and technologies by discipline

→ **Browse by Contributing Institution**
Find learning objects, courses, tools and technologies by the B.C. Institutions that developed them.

→ **Browse by Program**
Find course resources listed by the B.C. program name for which they were originally developed.


→ **Browse all BC Commons Resources**
Browse all resources which have been contributed under a BC Commons license.

→ **Browse all Creative Commons Resources**
Browse all resources which have been contributed under a Creative Commons Attribution-ShareAlike 2.0 Canada License.

→ **Browse by OPDF Round**

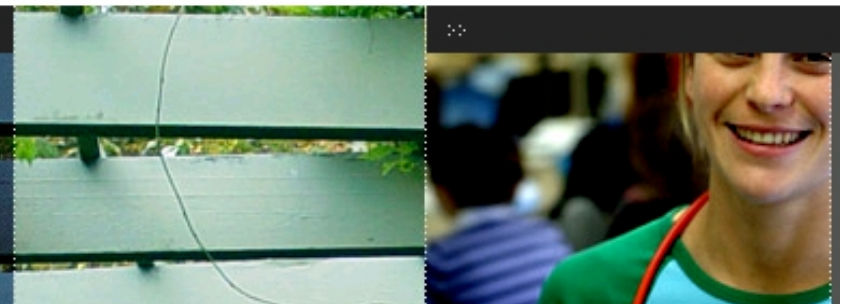
NOTIFICATIONS
There are no items requiring your attention at this time

TASK LIST
There are no items requiring your attention at this time

BROUGHT TO YOU BY  BC CAMPUS.CA

Emphasizing value in the approach

- Exemplary public policy - optimizes utilization of public funds
- A model for collaboration among public post-secondary institutions
- Open source model generates quality online learning resources
- Differentiation is based on bundled services rather than content
- Builds reputation of developers
- Middle ground between free and commercial

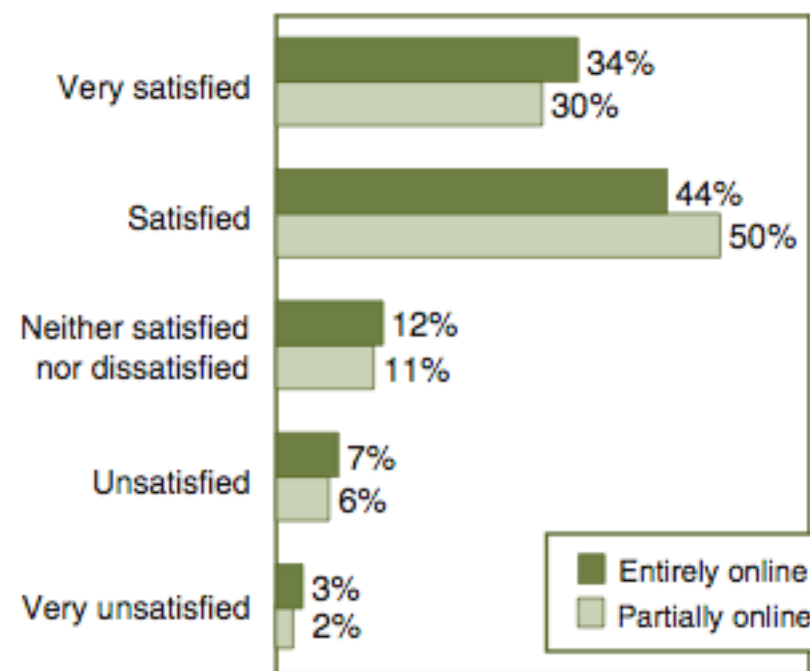


Identifying sustainability factors

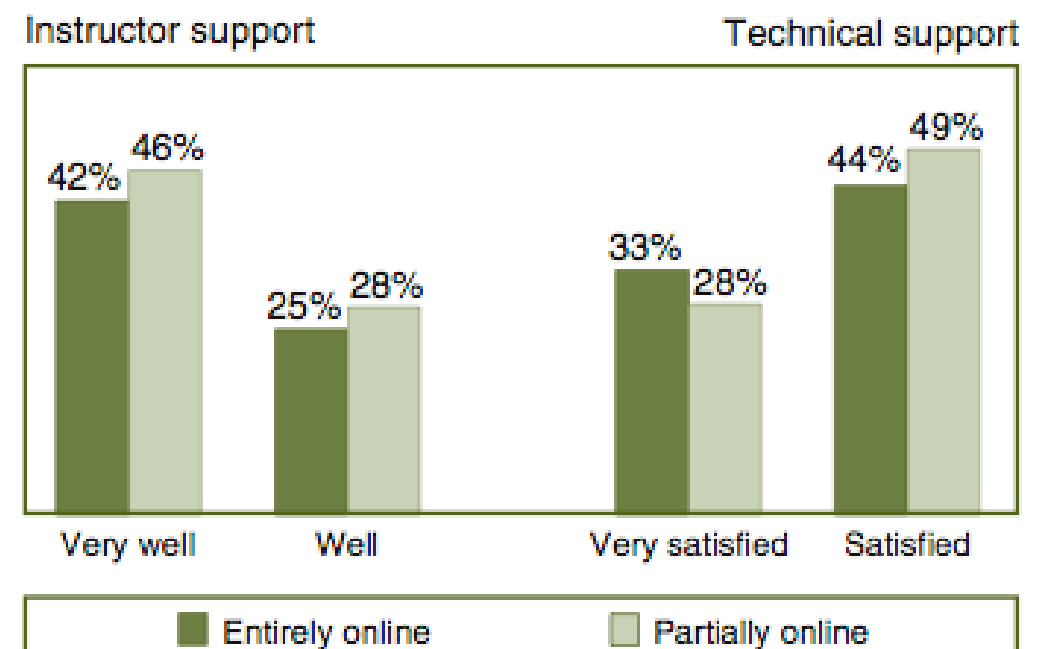
- ❏ Identify, communicate, implement, and measure value propositions for all members of the learning ecosystem
- ❏ Involve key reference groups to set the goals for system development, evaluation, and implementation
- ❏ Conduct active, small-scale pilots with all systems and processes
- ❏ Evaluate and acknowledge all successes and shortcomings, and quickly move successful implementations into wide-scale production
- ❏ Acknowledge that members of the ecosystem are ultimately responsible for systemic success and sustainability, not you

Overall online learning trends

A majority of respondents said they were satisfied or very satisfied with their online courses



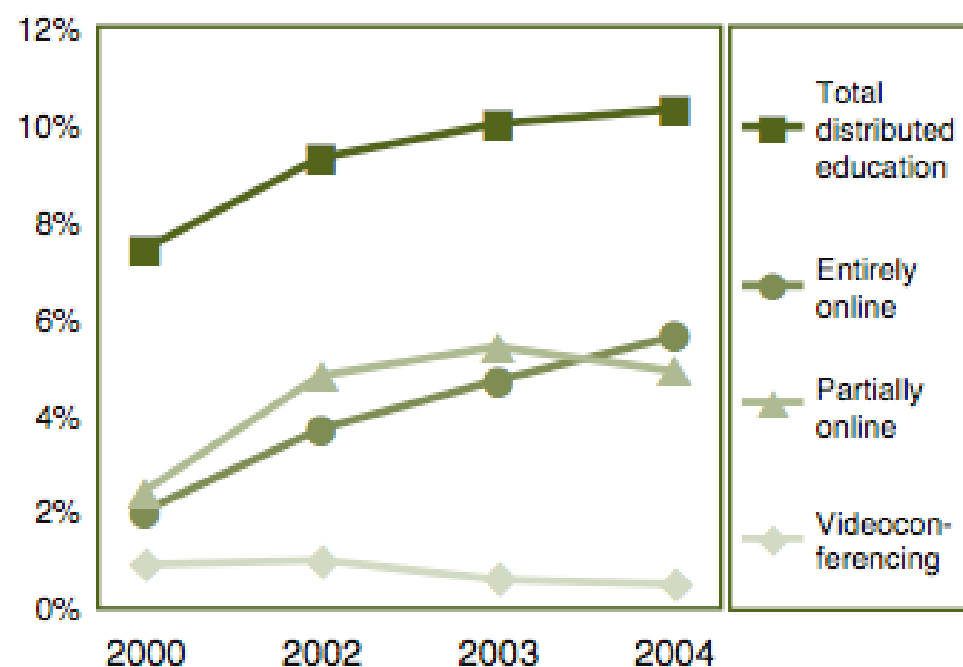
Respondents who took courses partially online were more likely to say their instructor supported them



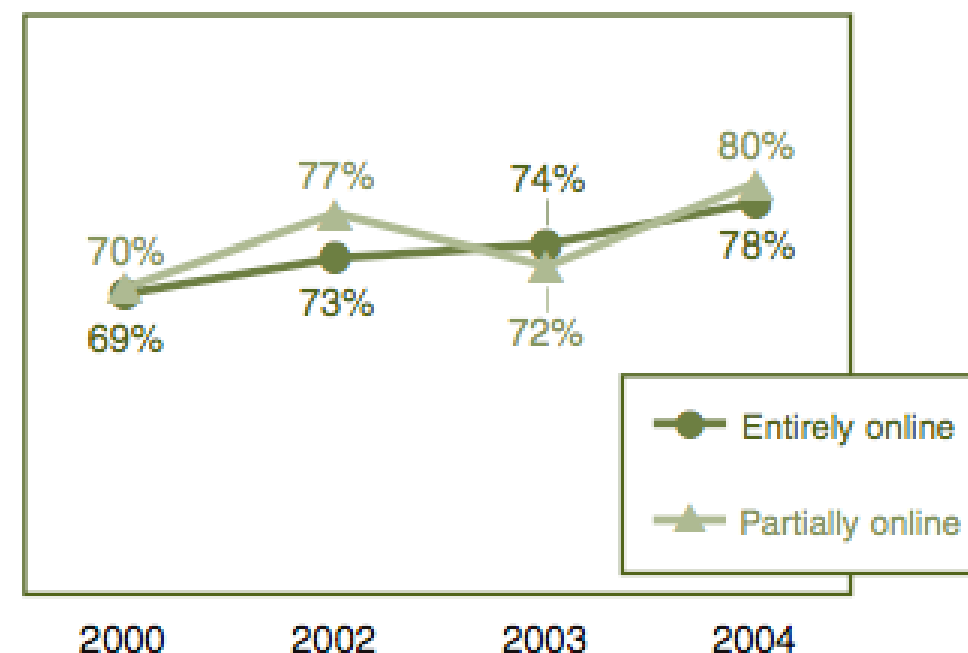
http://outcomes.bcstats.gov.bc.ca/Publications/collegereports/issue_distance.pdf

Growth continues

The increase in distributed education courses taken was due to an increased use of online delivery



Respondents who took online courses were satisfied or very satisfied with the experience



http://outcomes.bcstats.gov.bc.ca/Publications/collegereports/issue_distance.pdf

We're learning to work in new ways

Community source

 uPortal

 Creative Commons

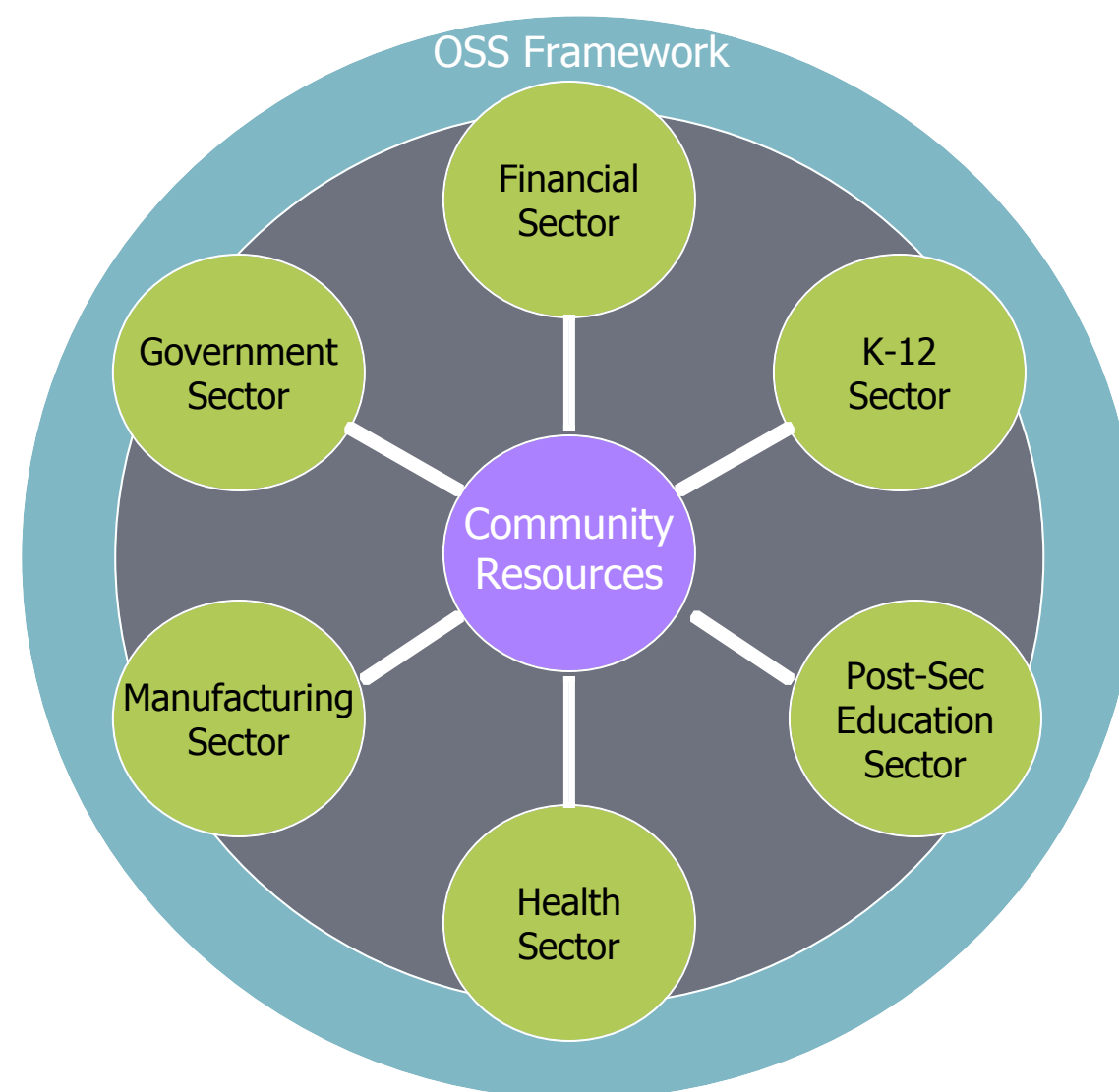
 BC Commons

 OKI

 OSPI

 Open Source Portfolio Initiative

 SAKAI



Building an agenda for sustainability

- ❏ **Balance the needs of learners and educators**
 - ❏ **And, administrators**
- ❏ **Build on a foundation of community and communication**
- ❏ **Adopt Open Source and Open Access technologies**
 - ❏ **Give back as good as you get**
- ❏ **Pay attention to techno culture and the context of learning**
- ❏ **Support the innovators in your community**

Contact and coordinates

David Porter
Executive Director
BCcampus.ca

dporter@bccampus.ca

www.bccampus.ca

These presentation slides are available
from

www.sfu.ca/~davidp/ecosystem.pdf

or

as a Breeze presentation from

present.bccampus.ca/ecosystem