

The Distance

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Connectivism: A Learning Theory for the Digital Age

George Siemens

Introduction

Behaviorism, cognitivism, and constructivism are the three broad learning theories most often utilized in the creation of instructional environments. These theories, however, were developed in a time when learning was not impacted through technology. Over the last twenty years, technology has reorganized how we live, how we communicate, and how we learn. Learning needs and theories that describe learning principles and processes, should be reflective of underlying social environments. Vaill emphasizes that "learning must be a way of being – an ongoing set of attitudes and actions by individuals and groups that they employ to try to keep abreast of the surprising, novel, messy, obtrusive, recurring events..." (1996, p.42).

Learners as little as forty years ago would complete the required schooling and enter a career that would often last a lifetime. Information development was slow. The life of knowledge was measured in decades. Today, these foundational principles have been altered. Knowledge is growing exponentially. In many fields the life of knowledge is now measured in months and years. Gonzalez (2004) describes the challenges of rapidly diminishing knowledge life.

"One of the most persuasive factors is the shrinking half-life of knowledge. The 'half-life of knowledge' is the time span from when knowledge is gained to when it becomes obsolete. Half of what is known today was not known 10 years ago. The amount of knowledge in the world has doubled in the past 10 years and is doubling every 18 months according to the American Society of Training and Documentation (ASTD). To combat the shrinking half-life of knowledge, organizations have been forced to develop new methods of deploying instruction."

>> continued on page 14 >>

About the Author

George Siemens

George Siemens is an instructor at Red River College (RRC) in Winnipeg, Manitoba, Canada. By his own admission, George is enamored with the potential of technology to transform learning and society. George hosts elearnspace, everything elearning (www.elearnspace.org). He has expanded his ideas into a learning theory for the digital age, Connectivism. The Connectivism website (www.connectivism.ca) is devoted to creating a learning theory reflective of how learners learn today.

This article has been reprinted with the permission of George Siemens. The original article is available at www.elearnspace.org/Articles/connectivism.htm.

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**Editor's Message**

Camille Jensen

As always, Spring marks Issue 1 of *The Distance*, much of it dedicated to the Interface conference. For this issue we've provided conference details and included a collection of articles that expand on the notion of a learning renaissance. In recent years, the Internet has been host to new and exciting technological changes coined Web

2.0. This, sometimes controversial group of technologies, is rich with learning opportunity and ripe with pits ... or pitfalls.

Through the month of March, I had the privilege of joining a group of instructional designers, educators, and learning managers in a online session to explore the new Web 2.0 technologies. The 'Unworkshop' was hosted by informal learning expert, Jay Cross. We met synchronously twice weekly and asynchronously for three weeks. Together we explored the wows and woes of all things Web 2.0. I made many new friends on my Web 2.0 adventure. Several of them have been generous enough to share their experiences, expertise, and knowledge with us in this issue. My thanks to Jay Cross for his contribution to our *Sidethought*, Harold Jarcho for his take on *Learning Flow*, Dave Lee for navigating us through the *Pitfalls of Web 2.0*, and David Ferguson for exposing us to the possibilities of job aids. Interestingly, our most recent online PD presenter, George Siemens has developed a learning theory for the digital age. George's concept of Connectivism provides a fascinating theoretical framework for the pending learning renaissance. Thanks to George for permission to reprint his article in *The Distance*.

While the sound of thanks is in the air, I wish to extend my gratitude to our devoted President, Sandi Barber. This issue marks Sandi's concluding President's message. Over the past two years, it has been a pleasure working, getting to know, and laughing with Sandi.

Hope you enjoy this issue...have a great time at Interface...remember to attend the AGM and activate your membership!

Ciao,
 Camille

About this Publication

The Distance is published three times a year by the Alberta Distance Education & Training Association as a service to its members.

We welcome your comments and suggestions. Send comments by email to the Editor, Camille Jensen (camille.adeta@shaw.ca) or by regular mail:

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Membership Information:**Individual Members:**

Individual members may participate in all discussions, have one vote on all issues and hold office.
 Annual Individual Membership: \$40.00

Student Members:

Student members may participate in all discussions but do not have a vote and cannot hold office.
 Annual Student Membership: \$15.00

For more information:
www.adeta.org

President's Message

Sandi Barber

The learning Renaissance ..imagine the possibilities...

Michelangelo, Leonardo, Raphael. My first thought upon learning of the theme for this year's Interface conference was memories of art history class and the famous painters, scholars, and architects of 1400-1600s. What could the arts, science, and political systems of this era have to do with advancing the distance education and training cause? Isn't the Renaissance about art and culture? Where does the technology tie in?



Kreis (2006), in the History Guide comments,

Why did the Renaissance occur? This is a difficult question at best -- there are no easy answers. In general, however, we could argue that the ordered, formalistic, and compartmentalized society of the Middle Ages allowed those forces which had created it to destroy it as well. These forces developed to such an extent that they outgrew the fixed and narrow framework through which they functioned. In other words, the medieval matrix held the seeds of its own decline. (§ 2)

The Italian Renaissance of the 15th century was instigated by the first printing press and fertilized by new techniques in art, architecture, and writing. Today, some argue, we are in the midst of an online Renaissance. Web applications, often referred to as Web 2.0 technologies may offer new potential for a renaissance in pedagogy.

Could it be that we are, like those of the Renaissance era, at a crossroads? Distance education and training has certainly gained relevance and credibility as a player in the educational marketplace. Is our profession in the "middle ages?" Do you find yourself stuck in a quagmire of bureaucracy and administrative procedure that stifles your creativity? Are we as professionals taking one step forward and two steps back? Is the current framework for the development and delivery of distance education and training bogging us down?

Kreis notes that Europe learned from its past and borrowed what was deemed most useful. I think we too can take our successes, miscalculations, misadventures, and learn to embrace the best and forget the rest!

This year's Interface promises to showcase the best of artistic achievement in distance education and training. I invite you to browse through the conference schedule. You will find a multitude of interesting, enlightening, and intellectual presentations! Come join us in Lethbridge and be prepared to enter the **ren•ais•sance**. (A revival of intellectual or artistic achievement and vigor).

Resources

Kreis, S. (2006). The history guide: Revolutionizing education in the spirit of socratic wisdom. Retrieved April 12, 2006 from www.historyguide.org/intellect/lecture4a.html



>> President's Message continued >>

>>President's Message continued >>

A ren • ais • sance for ADETA

Sandi Barber

Over the last two years our Board has undertaken a Strategic Planning Process to assist in charting ADETA's future direction. Our work is now done. Here is a synopsis of the process, the rationale and the results. For a more detailed account and discussion, please join us at our AGM during Interface this year.

1. We began the process with a **survey of our membership**. Key findings that assisted us in our planning process included:
 - Our membership is evenly distributed between northern and southern Alberta, with some members from out of province.
 - Just over half of our members are seasoned professionals with over 10 years in the field, followed by one-third who have been in the profession for 6-10 years.
 - Ten percent of our members are students.
 - While many members agreed with our current mandate, several commented that it was dated.
 - Many members saw ADETA as playing a key role in offering professional development opportunities either face-to-face or online.
 - Members see ADETA as needing to fulfill a networking role. There is potential to use our website to facilitate communities of practice, provide more links to relevant information and build bridges between e-learning partners.
 - Members like the idea of expanding recognition of members' accomplishments.
 - Our members are busy; many belong to more than one professional organization. Over half the members indicated they were unable to volunteer for ADETA.
 - Our members would like more contact, more services, and to be connected with other members.
2. Next, through a series of facilitated meetings the Board created a **strategic planning document**. This document identified current activities, needed future activities, and gaps between the current and desired states.
3. This process resulted in a review of and **revison in the bylaws**. The complete Bylaw revisions have been sent to the members via the listserv. The highlights follow below:
 - Our bylaws now recognize the wide reach of our association with the addition of the words "**from outside Alberta**" to our Purpose and Goals.
 - We have added two new **Member Awards** to celebrate contributions to ADETA and our profession. (Research, Distinguished Service, and Excellence in Collaboration Award.)
 - Our membership has high expectations of their Board. Our members see ADETA playing a key role in distance education and training. Given the current Board structure and amount of work that is needed to provide these services, we are asking the membership to approve a revised Board structure. These revisions will include adding **two new Directors** to the Board for a total of four Directors.
 - Our **new Committees** under each Director's Portfolios includes: Membership, Elections and Membership Awards, Communications, and Special Events.
 - We have revised the **Association goals**. We now have four major goals that are reflective of the state of distance education and training.
4. Lastly, we have created an **ADETA Business Plan** for 2006-08. This plan, using these four new key Association goals as a framework, identifies our core business, expected outcomes, and strategies to achieve these outcomes.

In closing we are experiencing a Renaissance for the Board, and we hope for ADETA. Our Board has worked hard to provide focus for the Association. I have been fortunate to have worked with a Board that has passion, is goal oriented, and focused on the needs of our members. Many thanks to all of you!

We have an important mandate to fulfill and we now have a plan to help us achieve this!

I am confident that you will support the work that your hard-working and dedicated Board has completed. Vote "YES" to the bylaws changes at our AGM on May 11 and let the *ren • ais • sance* begin!

Sincerely,
Sandi

Announcements

ADETA Excellence Awards

Ingrid Stammer

The ADETA Excellence Awards have been established to recognize contributions of ADETA members in the following areas:

- improvement and advancement of distance education and training
- collaboration, cooperation, and understanding within the distance education community
- research and reflection on distance education practice and theory

Excellence Award winners will be announced at the annual general meeting. Award winning articles describing the accomplishments being recognized or summarizing the research will be published in *The Distance*. Publication circulation includes postsecondary institutions in Alberta, as well as institutions, government agencies, and educators across Canada.

April 30 is the nomination deadline for all awards.

You can nominate members for the following awards...

Distinguished Service Award

Nominees for this award are members who have been involved with ADETA for a minimum of seven years and who exemplify the following tenets of the ADETA philosophy:

- Learners should expect and receive a quality distance education experience.
- Learners should have the flexibility to learn in a mode, time, and place that is compatible with their individual circumstances.
- Learners should have equitable opportunities to access distance learning regardless of geographical location or socioeconomic status.
- The improvement of distance education and training should be considered a continuous activity for every ADETA member.
- Cooperation can benefit those involved in distance education.

Submissions should be no longer than 3,000 words and include...

- a biography highlighting the significant contributions of the nominee,
- and, if appropriate, links to websites that provide information about the nominee's activities.

The Distinguished Service Award recipient will receive...

- a certificate of recognition,
- an article in *The Distance* describing the accomplishments of the member,
- and a registration to the next year's Interface conference.

Excellence in Collaboration Award

This award recognizes the importance of collaboration and cooperation by a group of people who have worked together to identify and resolve evolving distance education and training issues. The event or project may involve people from a variety of institutions, companies, and/or organizations.

Submissions should be no longer than 3,000 words and include ...

- brief biographies of the key contributors who are also nominees
- description of the event or project
- explanation of the necessity for collaboration
- review of the benefits to those involved in and affected by the event or project

The key contributors and organizers of the collaborative activity must be ADETA members.

The Excellence in Collaboration Award recipients will receive ...

- certificates of recognition for the key contributors,
- and an article in *The Distance* describing how the event or project exemplifies collaboration and cooperation.

Excellence in Research Award

The purpose of the Research Award is to recognize and publicize research conducted by ADETA members that contributes to our understanding of distance education or training. Both theoretical research studies and descriptions of projects that systematically examine or evaluate practices of ADETA members will be considered for the award. Any research, published or non-published, that contributes to the understanding of distance education is eligible to receive recognition. The project results and findings should be accessible to ADETA members.

The research reports nominated must not exceed 3,000 words; longer works such as major papers, dissertations, and theses must be summarized. If the research is already published online, the URL should be provided. Nominations for the Excellence in Research Award must be made by ADETA members other than the authors of the nominated works.

The Excellence in Research Award recipient will receive ...

- a certificate of recognition,
- publication in *The Distance* describing the accomplishments of the member and the summarized research report,
- a registration to the next year's Interface conference,
- and a cash award.

Nominations

Each award nomination must be made by at least two ADETA members and sent to the Past President, who will chair the awards selection committee. The selection committee may decide not to recommend an award in a specific category if the submissions are insufficient or do not comply with the guidelines. The ADETA Board will approve all awards prior to their announcement at the ADETA annual general meeting.



Announcements



Calling all ADETA Members to the ...

ADETA Annual General Meeting and Board Elections

ADETA's Annual General Meeting (AGM) will be held during Interface 2006 in Lethbridge on **Thursday, May 11**, from **12:30 to 1:45** in Room AH175.

Join us for lunch, learn about the latest happenings, and activate your membership at the election. (Lunch will be served.)

Over the last two years the Board has focused its work on strategic planning to assist in charting ADETA's future direction. As a result of the process, the Board has revised the bylaws and developed a business plan. At the AGM, the Board will present the bylaw changes to the membership and introduce a proposed change to the Board structure. Both changes reflect the current and future focus and priorities of the Association. The AGM will be your opportunity to vote on these changes and elect a new Board.

The meeting agenda will include ...

- **Nominations for Board members (taken from the floor)**
- Reports from Board members
- An overview of ADETA's Strategic Planning Process, presentation of the Business Plan
- Presentation of ADETA's **new bylaws and vote on changes**
- Announcement of **Membership Awards recipients**

Public Relations Committee Update

Brigitte Lépine

ADETA Web Site: Building a Community

It is time to rework the ADETA website and have struck a committee. Our new committee is comprised of Board member Brigitte Lépine and four other eager ADETA members: Dean Caplan, Camille Jensen, Brad Johnson, and Steve Swettenham.

We've started working on a vision and feature list / wish list. From our preliminary conversation, we envision the ADETA website as an online environment for a community of practice and social networking.

You are invited to share your ideas and insights into ADETA's online community of practice. Watch the ADETA listserv for updates.

Online PD Highlights

Pattie Mascaro

In January, ADETA celebrated a full year of providing monthly PD sessions online using Elluminate Live! thanks to the generosity of NorQuest College. You can access archives of the online PD sessions by visiting the ADETA Elluminate Live website at elive.edu.norquest.ca/adeta/adeta.htm, then click on the button "ADETA PD Recorded Session." A list of links to archived sessions will appear, identified by the date of the session.

The January online PD session featured Norm Vaughan from the University of Calgary and Jim Zimmer from Mount Royal College discussing the approaches to Blended Learning at their institutions. It's clear from Jim and Norm's presentation and the participant discussion, that Alberta post-secondary institutions are taking a variety of effective approaches to Blended Learning. You can view the archive of the session by visiting the ADETA Elluminate Live! website elive.edu.norquest.ca/adeta/adeta.htm and clicking the "ADETA PD Recorded Session." button.

In March, George Siemens of Red River College in Manitoba presented *Connectivism: Rethinking Learning*. In the presentation he suggested a new model of education for the 21st century, feature in this issues' cover article. To combat the limited "shelf life" of particular types of knowledge, "Connectivism" emphasizes networks of learning rather than focusing exclusively on the acquisition of skills and knowledge. To view the archive of the session, go to elive.edu.norquest.ca/adeta/adeta.htm, then click the "ADETA PD Recorded Session" button.

Announcements

Upcoming Online PD Sessions

Join us on April 21st 12 pm to 1pm MT for the Third Annual Interface Conference Virtual Wine and Cheese Party. This is a less formal but highly interactive session that gives participants a chance to have their say. You will be able to meet colleagues who will be attending Interface 2006 prior to the conference. This is an opportunity for you to begin pondering and discussing what the conference theme, "Alberta's Renaissance," means to you.

Register online at:

www.sporg.com/pom/registration?cmd=event_info&event_id=42994

Stay tuned to the ADETA listserv and webpage for information about upcoming events throughout Spring and Summer.

For further information about these events or to suggest ideas for future events, please contact: pattie.adeta@telus.net or adeta_pd@yahoo.ca.

CIDER at CADE: You are invited to the CIDER Distance Education Research Workshop at CADE!

Terry Anderson

Sparkling and Sustaining Innovation through Research in Distance Education

8:30 – 5:00 Tuesday, May 23, 2006, CADE/AMTEC Conference, Montreal

This one day pre-session is designed to enhance practitioner, professional researcher, and graduate students' capacity to produce quality distance educational research. The format includes keynote presentation, panels, and information sessions focused on all components of the research process. The panel sessions feature Canadian distance education researchers. Discussions will centre around research opportunities, issues, and results relevant to the various panel topics. Whether observer, practitioner, student, or active researcher, this full day workshop will entice your interest and passion for distance education -- in its many forms.

Registration Fee:

\$85.00 + GST for General Participants

\$50.00 + GST for students who contribute a poster presentation of their work

For agenda and registration visit: <http://cider.athabascau.ca>

- select the CADE/AMTEC 2006 Pre Conference Workshop link (in the new column on the right side)

We hope to see you in Montreal in May!

CADE and AMTEC Joint Conference

2006 CADE and AMTEC Joint International Conference Innovation in Education: Challenges, Issues and Solutions

May 23 – May 26, Université du Québec, Montreal, Quebec

We often associate innovation with technology, such as multimedia, information and communication technologies, or virtual learning environments. But innovation doesn't end there. Innovation can just as well take place in the relationships between professors and students, in the methods for developing educational content, in organisational and administrative structures, and in the relationships between educational institutions and their social and economic environments.

What drives educational innovation? A scarcity of resources, or a quest for pedagogical ideals? Do educational and social ideals drive innovation in our communities, institutions, programs, and groups? Will commercialization of education constrain innovation?

The 2006 CADE/AMTEC Annual Conference invites careful research, thoughtful reflection and vigorous debate of these questions. All those who are involved with education and its future, including: professors, teachers, students, media specialists, support professionals, advisers, administrators, and technology developers, are invited.

For details and to register visit: www.acedamtec.uqam.ca/EN/co_president

| | CADE or AMTEC Member | Non Member | Student |
|---------------------------|----------------------|------------|------------|
| Regular (by 5/15) | 575\$ + tx | 625\$ + tx | 170\$ + tx |
| Late/On-site (after 5/15) | 625\$ + tx | 675\$ + tx | 170\$ + tx |

Announcements

Canadian WebCT Conference

Discover 2006: Learn, Teach, Inspire
Canadian WebCT E-Learning Conference

June 18 – June 22, University of Alberta,
Edmonton, Alberta

The goal of this year's conference is to explore new technologies and share ideas about conventional and innovative uses of traditional tools in WebCT. In essence, the conference aims to weave together two elements of e-learning: the successes of tried and true tools and the potential of a number of technologies that are relatively new to the scene. The conference theme sums it all up: **Discover 2006: Learn, Teach, Inspire!**

In addition to the stimulating workshops that conference attendees can attend, the conference will feature:

- Keynote Speaker: **Dr. Robert Clougherty**, Director, Institute for Technological Scholarship, Tennessee Tech University
- Invited Speaker: **Phil Chatterton**, Senior Sales Engineer, WebCT, A Blackboard Company.
- informative and stimulating presentations and panels on a wide variety of e-learning issues
- an opportunity to see, and ask questions about WebCT CE 6 and Vista 4.

Since this is a small, informal, and friendly conference. It is an excellent opportunity for both experienced WebCT users and folks new to the field to get together, share ideas, and network with peers at our opening dinner and hosted lunches.

MADLaT 2006 Conference

Co-operation in Learning: Putting the 'WE' in IT
MADaL Conference 2006

May 4 – May 5, University of Manitoba,
Winnipeg, Manitoba

The fifth annual conference of the Manitoba Association for Distributed Learning and Training (MADLaT) is titled Co-operation in Learning: Putting the "We" in IT. The conference title and theme are focused on how cooperation and working with others can enhance our work as professionals.

Who should attend?

Anyone with an interest in using educational technology for teaching and learning. People from K-S4, colleges, universities, and private education/training companies plus those in business, industry, government, NGOs, and associations who have a responsibility around education and training.

Streams

The three streams of the MADLaT conference reflect our diverse community of practitioners – K-S4, Postsecondary and Business. Attendees will learn practical ways to join in the sharing of knowledge and skills to promote quality in distributed learning that can be integrated into their daily teaching and learning practices.

On Thursday, May 4, 2006, there are 14 half-day pre-conference workshops that provide opportunities for in-depth immersion in the topics. Seven of the 14 workshops are "hands-on" – focusing on practical skills.

With a total of 24 concurrent sessions in three time slots at the conference on Friday, May 5, 2006, you will have no difficulty finding at least three sessions related to your professional development interests.

For details and registration information visit...
www.madlat.ca/conference2006/Default.htm

Community Learning Awards

The Conference Board of Canada 2006
Community Learning Awards

The Office of Learning Technologies of the Department of Human Resources and Social Development Canada has partnered with the Conference Board's Education and Learning department to fund the Community Learning Awards.

The Community Learning Awards recognize innovative

and effective community-based learning initiatives that help communities build their capacity for informal learning. The awards focus on community initiatives that develop the skills and competencies individuals need to participate more fully in the community.

For more information on these awards and to obtain entry information, please visit:

www.conferenceboard.ca/email/cl-awards/spr2006

Deadline for entries is May 19, 2006.

INTERFACE 2006 Alberta's Renaissance



Interface 2006: Alberta's Renaissance

ren•ais•sance: A revival of intellectual or artistic achievement and vigor
 May 10, 11, 12, University of Lethbridge, Lethbridge

Join us at Interface 2006: Alberta's Renaissance, May 10, 11, 12! The University of Lethbridge is hosting the annual ADETA conference in Lethbridge. The theme of Interface 2006 is 'Alberta's Renaissance'. For years, both technology and pedagogy have been developing and converging. With the completion of Alberta's SuperNet, Alberta's post-secondary and K-12 systems have new opportunities to impact more learners and improve the teaching and learning experience.

Interface 2006 will challenge participants to reflect upon where we have been as distant, face-to-face, and blended educators and discover what new possibilities and opportunities exist for the future.

The conference will be of interest to educational professionals, instructors, designers, teaching staff, as well as those from the industry; both corporate and non-profit.

Interface 2006 has a full schedule of sessions and events of interest to the entire ADETA membership. Start the conference on Wednesday May 10 with a full day of pre-conference workshops. In the evening join us for an informal wine and cheese event to catch up with old colleagues and meet new friends. Thursday kicks off with breakfast and a keynote address from Dr. Tim Pytchyl from Carleton University. Choose 4 of the 24 concurrent sessions taking place, and don't forget the ADETA AGM meeting at lunch. Thursday evening will be a unique experience as we dine at the top of Lethbridge's retired water tower while looking out over the city and the distant Rocky Mountains. Friday begins with breakfast and a keynote address from Dr. Tony Bates from the University of British Columbia. Choose 2 of the 12 concurrent sessions and listen to our special guest speaker, Marilyn Steinberg, from the Canadian Space Agency over lunch.

| Starter |
|---|
| (Your Choice) |
| Fresh Tossed Caesar Salad with Shaved Asiago Organic Greens tossed with Housemade Vinaigrette Spinach Salad tossed with Balsamic Vinaigrette New England Clam Chowder Daily Homemade Soup |
| Main Course |
| All Main Courses are served with your choice of our signature stuffed baked potato, roasted potatoes or rice pilaf and seasonal fresh sautéed vegetables. |
| (Your Choice) |
| Top Sirloin Steak Best Great flavour & texture. Our most popular cut. |
| Toasted Coconut Curry Chicken Pan seared chicken breast with curry cream sauce. |
| BBQ Ribs Full rack of tender baby back pork ribs broiled, grilled & glazed with housemade BBQ sauce. |
| Almond Crusted Fresh Salmon Eco. Wild salmon with housemade leek & lemon sauce. |
| Prawn & Scallop Linguini With Parmesan cream sauce. Served with garlic toast. |
| Tomato Basil Angel Hair With tomato basil sauce & Asiago cheese. Served with garlic toast. |
| Dessert |
| (Your Choice) |
| Chocolate Cake Four layer, with raspberry puree & whipped cream. |
| Crème Brûlée Housemade & individually burned. |
| Ginger Cake Served warm with Toffee Sauce & Vanilla ice cream. |
| (All meals include your choice of soft drink, coffee or tea.) |

Interface Registration Information

- \$275.00 Full Registration – Banquet Ticket included
- \$165.00 Single Day Registration (Thursday or Friday)
- \$165.00 Student Registration – Banquet Ticket included
 (you will be asked for your ID card when you arrive at the registration both)
- \$85.00 Wednesday Workshops 9am – 4pm
- \$45.00 Extra Banquet Ticket

There will be fine prizes and giveaways throughout the conference.

For more details and to register visit: interface2006.uleth.ca

Wine and Cheese Information

Start the conference on **Wednesday May 10th, 7:00pm - 8:00pm** by getting reacquainted with old friends and meeting new colleagues. The wine and cheese will be a chance for you to learn what others are doing around the province. Everyone is welcome to come.

Interface Banquet Information

The conference banquet will be held at the top of Lethbridge's retired water tower in the unique Rick's Grill. The restaurant provides a 360-degree view of the city and distant Rocky Mountains.

ADETA
 Alberta Distance Education & Training Association



INTERFACE 2006 Alberta's Renaissance

Keynote Speakers



Tony Bates, Ph.D

Dr. Tony Bates is President and CEO of Tony Bates Associates Ltd, a specialized consulting firm on distance education and e-learning solutions. Dr. Bates is well versed in the area of technology and education integration as he has served as the Director of Distance Education Technology in the Continuing Studies Division of the University of British Columbia as well as part-time Cisco Systems Chair of e-Learning at SAIT in Calgary, among his numerous accomplishments.



Tim Pychyl, Ph.D

Dr. Tim Pychyl is an Associate Professor and the Graduate Chair in the Department of Psychology at Carleton University. He continues to work in both curriculum design and faculty development. His most recent project was a web-based faculty resource, www.facultydevelopment.ca which was developed in part with funding from CANARIE.

**Guest Speaker: Marilyn Steinberg
Canadian Space Agency**

Marilyn Steinberg has lead the development and implementation of the Space Awareness and Learning Program at the Canadian Space Agency since 1998. Ms. Steinberg is responsible for the redesign of the program that will be used to inspire students to pursue their academic path and eventual careers in science and technology. She is responsible for integrating strong tele-learning and emerging technologies components into the Space Awareness and Learning Program. The program provide students and educators with direct access to pedagogically relevant space science and technology content. Access is extended to the space science and engineering community through web-based and space-based learning tools. Ms. Steinberg also initiated a professional development program for Canadian space educators to support the education community's efforts to bring accurate and inspiring information and hands-on learning opportunities into the elementary and secondary classroom.

| Time | Wednesday, May 10 |
|--------------------|--|
| 8:15 – 9:00 AM | Breakfast and Registration |
| 9:00 AM – 12:00 PM | Workshop 1 eCampusAlberta: Faculty Tips & Tricks for Online Teaching Tricia Donovan & Sheila Whitmore, eCampusAlberta OR Open Source, Open Formats: A hands-on workshop Jon Lane - CRDC, University of Lethbridge |
| 12:00 – 1:00 PM | Lunch |
| 1:00 – 4:00 PM | Workshop 2 eCampusAlberta: Online e-Learning Rubric Forum Tricia Donovan & Sheila Whitmore, eCampusAlberta OR Online Testing Tips and Tricks John Kometz - CRDC, University of Lethbridge |
| 7:00 – 8:30 PM | Wine & Cheese Reception |

INTERFACE 2006 Alberta's Renaissance

| Time | Thursday, May 11 | | | | | | | | | | | | | | | | | | | | | |
|---------------------|--|--|--------------|---------------|---|---|--|---|--|--|---|---|--|---|--|--|---|---|--|---|--|-----------------------------------|
| 7:45 – 8:30 AM | Breakfast & Registration | | | | | | | | | | | | | | | | | | | | | |
| 8:30 – 9:45 AM | Keynote - Tim Pychyl | | | | | | | | | | | | | | | | | | | | | |
| 9:45 – 10:30 AM | Break & Vendors | | | | | | | | | | | | | | | | | | | | | |
| | Concurrent Session 1 | | | | | | | | | | | | | | | | | | | | | |
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| 10:30 -11:30 AM | Concurrent Session 2 | | | | | | | | | | | | | | | | | | | | | |
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| 11:30 AM – 12:30 PM | | | | | | | | | | | | | | | | | | | | | | |

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| 12:30 – 1:45 PM | <p style="text-align: center;">ADETA Annual General Meeting Location: AH 175 Lunch & Vendors Concurrent Session 3</p> | | | | | | | | | | | | | | | | | | | | | |
| 1:45 – 2:45 PM | <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Strand (#)</th> <th style="width: 50%;">Presenter(s)</th> <th style="width: 40%;">Session Title</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">1</td> <td>W. H. (Bill) Fricker - Technology Innovation & Innovation Marketing Consultant, NAIT</td> <td>NAIT DATE: Harnessing VC and the Supernet to effectively deliver apprenticeship training</td> </tr> <tr> <td style="text-align: center;">2</td> <td>Russ Wilde, MDE, Bow Valley College Karen Fiege M.Ed., Bow Valley College Travis Seaman, Bow Valley College</td> <td>Technology and the Learning College: Tools to Facilitate Transition</td> </tr> <tr> <td style="text-align: center;">3</td> <td>Dave Hawes - Manager, Strategic Technology & Curriculum Development, Learning Commons, University of Calgary</td> <td>Peer Review Tool</td> </tr> <tr> <td style="text-align: center;">4</td> <td>Krista Poscente, The Galileo Educational Network, University of Calgary</td> <td>Creating a K-12 Mathematics Online Professional Development Community through Lesson Study</td> </tr> <tr> <td style="text-align: center;">5</td> <td>Dr. Scott McAlpine - Dean, Faculty of Arts and Science, Grande Prairie Regional College Joanne Stiles - Academic Technologies Coordinator, Grande Prairie Regional College</td> <td>Changing Normal: Challenges in Creating an Institutional eLearning Culture</td> </tr> <tr> <td style="text-align: center;">6</td> <td></td> <td>Illuminate</td> </tr> </tbody> </table> | Strand (#) | Presenter(s) | Session Title | 1 | W. H. (Bill) Fricker - Technology Innovation & Innovation Marketing Consultant, NAIT | NAIT DATE: Harnessing VC and the Supernet to effectively deliver apprenticeship training | 2 | Russ Wilde, MDE, Bow Valley College Karen Fiege M.Ed., Bow Valley College Travis Seaman, Bow Valley College | Technology and the Learning College: Tools to Facilitate Transition | 3 | Dave Hawes - Manager, Strategic Technology & Curriculum Development, Learning Commons, University of Calgary | Peer Review Tool | 4 | Krista Poscente, The Galileo Educational Network, University of Calgary | Creating a K-12 Mathematics Online Professional Development Community through Lesson Study | 5 | Dr. Scott McAlpine - Dean, Faculty of Arts and Science, Grande Prairie Regional College Joanne Stiles - Academic Technologies Coordinator, Grande Prairie Regional College | Changing Normal: Challenges in Creating an Institutional eLearning Culture | 6 | | Illuminate |
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| 2:45 – 3:30 PM | <p style="text-align: center;">Lunch & Vendors Concurrent Session 4</p> | | | | | | | | | | | | | | | | | | | | | |
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| 5:30 – 6:00 PM | <p style="text-align: center;">Bus 1 Departure</p> | | | | | | | | | | | | | | | | | | | | | |
| 6:00 – 6:30 PM | <p style="text-align: center;">Bus 2 Departure</p> | | | | | | | | | | | | | | | | | | | | | |
| 6:30 – 8:30 PM | <p style="text-align: center;">Banquet: Rick's Grill (Top of the Water Tower)</p> | | | | | | | | | | | | | | | | | | | | | |

INTERFACE 2006 Alberta's Renaissance

| Time | Friday, May 12 | | | | | | | | | | | | | | | | | | | | | |
|--------------------|--|--|--------------|---------------|---|--|--|---|---|--|---|--|---|---|--|--|---|---|------------------|---|----------------|-------------------|
| 7: 45 – 8: 30 AM | Breakfast | | | | | | | | | | | | | | | | | | | | | |
| 8:30 – 9:45 AM | Keynote - Tony Bates | | | | | | | | | | | | | | | | | | | | | |
| 9:45 AM – 10:30 AM | Break & Vendors | | | | | | | | | | | | | | | | | | | | | |
| | Concurrent Session 5 | | | | | | | | | | | | | | | | | | | | | |
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| 10:30 – 11:30 AM | | | | | | | | | | | | | | | | | | | | | | |
| | Lunch & Guest Speaker - Marilyn Steinberg | | | | | | | | | | | | | | | | | | | | | |
| | Concurrent Session 6 | | | | | | | | | | | | | | | | | | | | | |
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| 11:30 AM – 1:00 PM | | | | | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | |
| 1:15 – 2:15 PM | | | | | | | | | | | | | | | | | | | | | | |
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| 2:15 – 2:45 | Wrap Up/Door Prizes | | | | | | | | | | | | | | | | | | | | | |

Feature Articles

>> cover story continued >>

Some significant trends in learning:

- Many learners will move into a variety of different, possibly unrelated fields over the course of their lifetime.
- Informal learning is a significant aspect of our learning experience. Formal education no longer comprises the majority of our learning. Learning now occurs in a variety of ways – through communities of practice, personal networks, and through completion of work-related tasks.
- Learning is a continual process, lasting for a lifetime. Learning and work related activities are no longer separate. In many situations, they are the same.
- Technology is altering (rewiring) our brains. The tools we use define and shape our thinking.
- The organization and the individual are both learning organisms. Increased attention to knowledge management highlights the need for a theory that attempts to explain the link between individual and organizational learning.
- Many of the processes previously handled by learning theories (especially in cognitive information processing) can now be off-loaded to, or supported by, technology.
- Know-how and know-what is being supplemented with know-where (the understanding of where to find knowledge needed).

Background

Driscoll (2000) defines learning as “a persisting change in human performance or performance potential ...[which] must come about as a result of the learner’s experience and interaction with the world” (p.11). This definition encompasses many of the attributes commonly associated with behaviorism, cognitivism, and constructivism – namely, learning as a lasting changed state (emotional, mental, physiological (i.e. skills)) brought about as a result of experiences and interactions with content or other people.

Driscoll (2000, p.14-17) explores some of the complexities of defining learning. Debate centers on

- Valid sources of knowledge - Do we gain knowledge through experiences? Is it innate (present at birth)? Do we acquire it through thinking and reasoning?

- Content of knowledge – Is knowledge actually knowable? Is it directly knowable through human experience?
- The final consideration focuses on three epistemological traditions in relation to learning: Objectivism, Pragmatism, and Interpretivism
 - Objectivism (similar to behaviorism) states that reality is external and is objective, and knowledge is gained through experiences.
 - Pragmatism (similar to cognitivism) states that reality is interpreted, and knowledge is negotiated through experience and thinking.
 - Interpretivism (similar to constructivism) states that reality is internal, and knowledge is constructed.

All of these learning theories hold the notion that knowledge is an objective (or a state) that is attainable (if not already innate) through either reasoning or experiences. Behaviorism, cognitivism, and constructivism (built on the epistemological traditions) attempt to address how it is that a person learns.

Behaviorism states that learning is largely unknowable, that is, we can’t possibly understand what goes on inside a person (the “black box theory”). Gredler (2001) expresses behaviorism as being comprised of several theories that make three assumptions about learning:

1. Observable behaviour is more important than understanding internal activities
2. Behaviour should be focused on simple elements: specific stimuli and responses
3. Learning is about behaviour change

Cognitivism often takes a computer information processing model. Learning is viewed as a process of inputs, managed in short term memory, and coded for long-term recall. Cindy Buell details this process, “In cognitive theories, knowledge is viewed as symbolic mental constructs in the learner’s mind, and the learning process is the means by which these symbolic representations are committed to memory.”

Constructivism suggests that learners create knowledge as they attempt to understand their experiences (Driscoll, 2000, p. 376). Behaviorism and cognitivism view knowledge as external to the learner and the learning process as the act of internalizing knowledge. Constructivism assumes that learners are not empty vessels to be filled with knowledge. Instead,

Feature Articles

learners are actively attempting to create meaning. Learners often select and pursue their own learning. Constructivist principles acknowledge that real-life learning is messy and complex. Classrooms which emulate the “fuzziness” of this learning will be more effective in preparing learners for life-long learning.

Limitations of Behaviorism, Cognitivism, and Constructivism

A central tenet of most learning theories is that learning occurs inside a person. Even social constructivist views, which hold that learning is a socially enacted process, promotes the principality of the individual (and her/his physical presence – i.e. brain-based) in learning. These theories do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology). They also fail to describe how learning happens within organizations

Learning theories are concerned with the actual process of learning, not with the value of what is being learned. In a networked world, the very manner of information that we acquire is worth exploring. The need to evaluate the worthiness of learning something is a meta-skill that is applied before learning itself begins. When knowledge is subject to paucity, the process of assessing worthiness is assumed to be intrinsic to learning. When knowledge is abundant, the rapid evaluation of knowledge is important. Additional concerns arise from the rapid increase in information. In today's environment, action is often needed without personal learning – that is, we need to act by drawing information outside of our primary knowledge. The ability to synthesize and recognize connections and patterns is a valuable skill.

Many important questions are raised when established learning theories are seen through technology. The natural attempt of theorists is to continue to revise and evolve theories as conditions change. At some point, however, the underlying conditions have altered so significantly, that further modification is no longer sensible. An entirely new approach is needed.

Some questions to explore in relation to learning theories and the impact of technology and new sciences (chaos and networks) on learning:

- How are learning theories impacted when knowledge is no longer acquired in the linear manner?

- What adjustments need to be made with learning theories when technology performs many of the cognitive operations previously performed by learners (information storage and retrieval).
- How can we continue to stay current in a rapidly evolving information ecology?
- How do learning theories address moments where performance is needed in the absence of complete understanding?
- What is the impact of networks and complexity theories on learning?
- What is the impact of chaos as a complex pattern recognition process on learning?
- With increased recognition of interconnections in differing fields of knowledge, how are systems and ecology theories perceived in light of learning tasks?

An Alternative Theory

Including technology and connection making as learning activities begins to move learning theories into a digital age. We can no longer personally experience and acquire learning that we need to act. We derive our competence from forming connections. Karen Stephenson states,

Experience has long been considered the best teacher of knowledge. Since we cannot experience everything, other people's experiences, and hence other people, become the surrogate for knowledge. 'I store my knowledge in my friends' is an axiom for collecting knowledge through collecting people (undated).

Chaos is a new reality for knowledge workers. ScienceWeek (2004) quotes Nigel Calder's definition that chaos is “a cryptic form of order”. Chaos is the breakdown of predictability, evidenced in complicated arrangements that initially defy order. Unlike constructivism, which states that learners attempt to foster understanding by meaning making tasks, chaos states that the meaning exists – the learner's challenge is to recognize the patterns which appear to be hidden. Meaning-making and forming connections between specialized communities are important activities.

Chaos, as a science, recognizes the connection of everything to everything. Gleick (1987) states, “In weather, for example, this translates into what is only half-jokingly known as the Butterfly Effect – the notion that a butterfly stirring the air today in Peking

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can transform storm systems next month in New York” (p. 8). This analogy highlights a real challenge: “sensitive dependence on initial conditions” profoundly impacts what we learn and how we act based on our learning. Decision making is indicative of this. If the underlying conditions used to make decisions change, the decision itself is no longer as correct as it was at the time it was made. The ability to recognize and adjust to pattern shifts is a key learning task.

Luis Mateus Rocha (1998) defines self-organization as the “spontaneous formation of well organized structures, patterns, or behaviors, from random initial conditions.” (p.3). Learning, as a self-organizing process requires that the system (personal or organizational learning systems) “be informationally open, that is, for it to be able to classify its own interaction with an environment, it must be able to change its structure...” (p.4). Wiley and Edwards (2002) acknowledge the importance of self-organization as a learning process: “Jacobs argues that communities self-organize in a manner similar to social insects: instead of thousands of ants crossing each other’s pheromone trails and changing their behavior accordingly, thousands of humans pass each other on the sidewalk and change their behavior accordingly.” Self-organization on a personal level is a micro-process of the larger self-organizing knowledge constructs created within corporate or institutional environments. The capacity to form connections between sources of information, and thereby create useful information patterns, is required to learn in our knowledge economy.

Networks, Small Worlds, Weak Ties

A network can simply be defined as connections between entities. Computer networks, power grids, and social networks all function on the simple principle that people, groups, systems, nodes, entities can be connected to create an integrated whole. Alterations within the network have ripple effects on the whole.

Albert-László Barabási states that “nodes always compete for connections because links represent survival in an interconnected world” (2002, p.106). This competition is largely dulled within a personal learning network, but the placing of value on certain nodes over others is a reality. Nodes that successfully acquire greater profile will be more successful

at acquiring additional connections. In a learning sense, the likelihood that a concept of learning will be linked depends on how well it is currently linked. Nodes (can be fields, ideas, communities) that specialize and gain recognition for their expertise have greater chances of recognition, thus resulting in cross-pollination of learning communities.

Weak ties are links or bridges that allow short connections between information. Our small world networks are generally populated with people whose interests and knowledge are similar to ours. Finding a new job, as an example, often occurs through weak ties. This principle has great merit in the notion of serendipity, innovation, and creativity. Connections between disparate ideas and fields can create new innovations.

Connectivism

Connectivism is the integration of principles explored by chaos, network, and complexity and self-organization theories. Learning is a process that occurs within nebulous environments of shifting core elements – not entirely under the control of the individual. Learning (defined as actionable knowledge) can reside outside of ourselves (within an organization or a database). It is focused on connecting specialized information sets, and the connections that enable us to learn more are more important than our current state of knowing. Connectivism is driven by the understanding that decisions are based on rapidly altering foundations. New information is continually being acquired. The ability to draw distinctions between important and unimportant information is vital. The ability to recognize when new information alters the landscape based on decisions made yesterday is also critical.

Principles of connectivism:

- Learning and knowledge rests in diversity of opinions.
- Learning is a process of connecting specialized nodes or information sources.
- Learning may reside in non-human appliances.
- Capacity to know more is more critical than what is currently known
- Nurturing and maintaining connections is needed to facilitate continual learning.
- Ability to see connections between fields, ideas, and concepts is a core skill.
- Currency (accurate, up-to-date knowledge) is

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- the intent of all connectivist learning activities.
- Decision-making is itself a learning process. Choosing what to learn and the meaning of incoming information is seen through the lens of a shifting reality. While there is a right answer now, it may be wrong tomorrow due to alterations in the information climate affecting the decision.

Connectivism also addresses the challenges that many corporations face in knowledge management activities. Knowledge that resides in a database needs to be connected with the right people in the right context in order to be classified as learning. Behaviorism, cognitivism, and constructivism do not attempt to address the challenges of organizational knowledge and transference.

Information flow within an organization is an important element in organizational effectiveness. In a knowledge economy, the flow of information is the equivalent of the oil pipe in an industrial economy. Creating, preserving, and utilizing information flow should be a key organizational activity. Knowledge flow can be likened to a river that meanders through the ecology of an organization. In certain areas, the river pools and in other areas it ebbs. The health of the learning ecology of the organization depends on effective nurturing of information flow.

Social network analysis is an additional element in understanding learning models in a digital era. Art Kleiner (2002) explores Karen Stephenson's "quantum theory of trust" which "explains not just how to recognize the collective cognitive capability of an organization, but how to cultivate and increase it". Within social networks, hubs are well-connected people who are able to foster and maintain knowledge flow. Their interdependence results in effective knowledge flow, enabling the personal understanding of the state of activities organizationally.

The starting point of connectivism is the individual. Personal knowledge is comprised of a network, which feeds into organizations and institutions, which in turn feed back into the network, and then continue to provide learning to the individual. This cycle of knowledge development (personal to network to organization) allows learners to remain current in their field through the connections they have formed.

Landauer and Dumais (1997) explore the phenomenon

that "people have much more knowledge than appears to be present in the information to which they have been exposed". They provide a connectivist focus in stating "the simple notion that some domains of knowledge contain vast numbers of weak interrelations that, if properly exploited, can greatly amplify learning by a process of inference". The value of pattern recognition and connecting our own "small worlds of knowledge" are apparent in the exponential impact provided to our personal learning.

John Seely Brown presents an interesting notion that the internet leverages the small efforts of many with the large efforts of few. The central premise is that connections created with unusual nodes supports and intensifies existing large effort activities. Brown provides the example of a Maricopa County Community College system project that links senior citizens with elementary school students in a mentor program. The children "listen to these "grandparents" better than they do their own parents, the mentoring really helps the teachers...the small efforts of the many – the seniors – complement the large efforts of the few – the teachers." (2002). This amplification of learning, knowledge, and understanding through the extension of a personal network is the epitome of connectivism.

Implications

The notion of connectivism has implications in all aspects of life. This paper largely focuses on its impact on learning, but the following aspects are also impacted:

- Management and leadership. The management and marshalling of resources to achieve desired outcomes is a significant challenge. Realizing that complete knowledge cannot exist in the mind of one person requires a different approach to creating an overview of the situation. Diverse teams of varying viewpoints are a critical structure for completely exploring ideas. Innovation is also an additional challenge. Most of the revolutionary ideas of today at one time existed as a fringe element. An organizations ability to foster, nurture, and synthesize the impacts of varying views of information is critical to knowledge economy survival. Speed of "idea to implementation" is also improved in a systems view of learning.
- Media, news, information. This trend is well under way. Mainstream media organizations are being challenged by the open, real-time,

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two-way information flow of blogging.

- Personal knowledge management in relation to organizational knowledge management
- Design of learning environments

Conclusion

The pipe is more important than the content within the pipe. Our ability to learn what we need for tomorrow is more important than what we know today. A real challenge for any learning theory is to actuate known knowledge at the point of application. When knowledge, however, is needed, but not known, the ability to plug into sources to meet the requirements becomes a vital skill. As knowledge continues to grow and evolve, access to what is needed is more important than what the learner currently possesses.

Connectivism presents a model of learning that acknowledges the tectonic shifts in society where learning is no longer an internal, individualistic activity. How people work and function is altered when new tools are utilized. The field of education has been slow to recognize both the impact of new learning tools and the environmental changes in what it means to learn. Connectivism provides insight into learning skills and tasks needed for learners to flourish in a digital era. ❖

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Learning Flow

Harold Jarche

The ubiquitous digital content found on the Web today is the raw material that younger generations especially are using to create unique perspectives on popular culture. One of the new evolutions in the digital content area is the mashup. "A **mashup** is a website or web application that seamlessly combines content from more than one source into an integrated experience ... via a public interface or API" (Mashup, 2006). The Creative Commons, an organization promoting flexibility in copyright laws, even has a special license for these types of media, called Sampling (<http://creativecommons.org/license/sampling/>). New Web 2.0 technologies like blogs, wikis, podcasts and video blogs, combined with the availability of digital content, have changed those who were previously consumers of information into co-creators. Apple Computer's famous marketing tag line of "Rip, Mix, Burn" can become "Construct, Deconstruct, Reconstruct" when put into a web-based learning context. The learner is able to interact with the learning media in a way never possible with the print medium.

Let's take a look at how digital media may be changing the field of instructional design, a technology with its roots in the Second World War and the need to quickly train thousands of personnel.

Digital Media Types According to Lefever

Business blog consultant Lee Lefever has defined two distinct types of digital media – stock and flow (Lefever, 2005)

Stocks = Archived, Organized for Reference (e.g. web site, database, book, voice mail)

Flows = Timely & Engaging (e.g. radio, speeches, e-mail, blogs)

Interacting with Digital Media

Lefever specifically comments on the changes that are happening within television. TiVo (TV on demand) is changing the television medium from one of flow (and therefore engaging) to one of stock (and therefore of less value). He also says the reason blogs are so popular at this time, with over 30 million on the Internet, is because they allow flow.

Consider the whole notion of digital content in education. Stock is like product - it has a shelf life and over time its value is reduced. In education you need flow to provide value (context), enabled through social interaction. For instance, MIT's open courseware initiative (<http://ocw.mit.edu>) makes the stock, in the form of course content, available for free, but, you have to pay to participate

in the flow (class membership and a degree from MIT). Flow keeps the learning conversations current for the changing needs of learners.

Will Richardson, an educational blogger, has discussed the changing needs of learners in a networked world (Richardson, 2005)

For instance, now that we have access to people and knowledge, learning is 'network creation' and that we can learn through 'collaborative meaning making'. And the idea that we no longer need to learn everything in 'advance of need' resonates strongly with Brown and Hagel's idea of push vs. pull learning [where learners become networked creators of knowledge], that we can pull information from a source when we need it, not have it pushed upon us in case we need it.

Impact on Instructional Design

Because the Web allows anyone to connect with everyone, as well as provide immediate access to information, it is an environment more suited to just-in-time learning (e.g. performance support tools) than for linear academic or training courses. Courses are stock, and learning on the Web is moving from stock to flow. I think that there will be a rapid decline in online course development as better models of web-based collaboration and just-in-time knowledge are developed. As online information and knowledge in all fields continues to expand, it will be more and more difficult to design a traditional course following instructional design methodologies that stands the test of time.

Another issue is finding, controlling, and updating the ever increasing amount of digital resources. Relatively in-depth studies do not give us answers on how to control all of the learning stock that is being created. The UK's JISC Pedagogical Vocabularies Project recently released two reports and a series of recommendations on structuring learning content for the web but was only able to recommend more study of the field (JISC, 2005). The reality is that the field is expanding too quickly for us to capture and re-use the objects that we create.

In this environment of increasing digital information, more control will not address our information management needs. After perusing the 121 pages of the two JISC reports, I came away with the feeling that trying to control chaos is a losing game. My suggestions for dealing with learning stock are:

- use the simplest of basic structures, such as the Resource Description Framework (RDF) [Standards built on RDF describe logical inferences between facts and how to search for facts in a large database of RDF knowledge - <http://www.rdfabout.net/quickintro.xpd>],

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- build better search into online learning applications (try to be like Google),
- only build taxonomies, ontologies and controlled vocabularies based on a specific user need, not "just-in-case",
- give learners and facilitators more tools to manage their information (tags, tagclouds, smart search, etc), and
- focus on tools to surf the chaos, not control it.

In learning, you could say that much of the flow is really communication. It is through communication, often conversation, that we attempt to make meaning. Dave Pollard has developed a table that compares several communications methods - written, audio, video, live - as to their cost, impact, value and cost/benefit (Pollard, 2006). This is a good decision support tool for learning environment designers to consider before creating educational media, and as Pollard says, it's open to revision.

Pollard also lists his principles of human learning preferences

1. People like information conveyed through conversations and stories because the interactivity and detail gives them context, not just content, and does so economically.
2. People hate talking heads, and are increasingly intolerant of them.
3. People no longer have the opportunity for serendipitous learning and discovery — everything they read and learn is narrow, focused, bounded, and the tools they are given in their reading and research reinforce this blinkered approach to learning. The consequence is the intellectual equivalent of not eating a balanced diet — a malnourished mind.
4. People do not know how to do research, or even search, effectively. They think these two things are the same, which they are not, and they have never been trained to do either properly. It's a good thing the search engines are so smart, because our use of them is mostly dumb.
5. People search as a last resort. They prefer to ask a real person for what they want to learn or discover, because it's faster and the answer is more context-specific. And if there is a single good browsable resource on their subject of interest, readily at hand, and they have the time, they will usually prefer to browse that resource rather than looking at a bunch of disconnected, often irrelevant, search engine matches. (Pollard, 2006)

Stories are an excellent example of learning flow. For millennia, humans have learned through stories. Pollard's listed preferences also indicate that learners need better tools, such as tag clouds [a visual depiction of content descriptors used on a website with more frequently used words depicted in a larger font], to enable serendipitous learning (Point #3) and that better built-in search is critical for finding good learning resources (Points #4 & #5).

These principles support the idea that we should put more effort into contextualizing online learning and less on cataloguing information and learning objects (Point #1). Instead of building more stock, learning professionals should concentrate on enabling flow. Having a lot of meticulously catalogued and tagged Stock (learning objects) is of little value without the contextual Flow (conversations & stories). There is lots of stock to choose from, and with Creative Commons licensing, more being created that is simple and easy to use for learning design.

So, let the learning flow. ☒

Author's Note: In developing this article, I have realized how limited the print medium is, especially when transferring what was originally a series of blog posts to create the basis of what is written here. Added hyperlinks are now more natural to me than using the APA format, which I have used for many years, but I now view as a relic of a bygone era. What originally flowed is now just a piece of stock. As a blog post [<http://www.jarche.com/?p=675>] this article built on previous posts and was open to comments and additions. With this article, it seems as if the conversation, and my learning process, have been frozen in time.

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Web 2.0 Technologies: A Primer

Camille Jensen

Do you think del.icio.us is an adjective? Does Flickr describe the status of your fluorescent lights? Are you amazed by how well Amazon knows your reading preferences? Then this Web 2.0 Primer is for you!

The online world is a-buzz with Web 2.0 talk. This elusive renaissance in ubiquitous computing is predicted, by some, to rival the dot-com boom. If it is all news to you, not too worry, as Web 2.0 is still very much in its infancy.

It was about two years ago when Dale Dougherty (of MediaLive International) suggested, "The Web was in a renaissance, with changing rules and evolving business models" (Wikipedia, 2005, Web 2.0). In a brainstorming session with Tim O'Reilly (of O'Reilly book fame), the two tech-heads deemed the emerging collection of web applications, Web 2.0 technologies and launched the first Web 2.0 conference in October of 2004. During the conference, delegates collectively elaborated on the characteristics of these new web applications.

Stephen Downes summarized the shift,

In a nutshell, what was happening was that the Web was shifting from being a medium, in which information was transmitted and consumed, into being a platform, in which content was created, shared, remixed, repurposed, and passed along. And what people were doing with the Web was not merely reading books, listening to the radio or watching TV, but having a conversation, with a vocabulary consisting not just of words but of images, video, multimedia and whatever

they could get their hands on. And this became, and looked like, and behaved like, a network (Downes, 2005, The Web 2.0, ¶5).

Today there is no finite consensus on the definition for Web 2.0 or even the validity of its name. You might hear it referred to as the early Semantic Web, the Live Web, the Dynamic Web, or the Social Web (Evans, 2006). Most would agree these technologies primarily describe those websites that use the web as a platform in an "architecture of participation" (O'Reilly, 2005). Unlike their predecessors, they are not built with static web pages. A pivotal characteristic is their implicit ability to rely on user participation for content while fostering social networking.

As with any buzz, it has its proponents and its critics. Nicholas Carr warns Web 2.0 technologies are a playground for the "cult of the amateur [that] venerate[s] the amateur and distrust[s] the professional" (Carr, 2005). Russell Shaw of ZDNet has declared Web 2.0 as "bunk" (Shaw, 2005, ¶ 8). He argues the elements labeled Web 2.0 cannot be classified under such a broad umbrella, and that the term 'Web 2.0' is nothing more than a marketing slogan for a trend.

Hype, buzz, backlash aside, regardless what you call it, these web applications have gained significant headway in the online marketplace. For example, MySpace boasts one million new accounts every 4 days. The number of technologies and users seems to be growing exponentially. Whether, blogs, wikis, podcasting, social bookmarking tools, image sharing, file sharing, or another Web 2.0 application, there is likely a new tool for you. ☒



Web 2.0 technologies

- use the Web and all its connected devices as one global platform of reusable services and data,
- consume data, particularly user generated data, and remix from all sources,
- provide continuous and seamless updates of software and data, often in perpetual beta,
- offer rich and interactive user interfaces
- foster an architecture of participation that encourages user contribution(Hinchcliffe, 2006, Key)

>> Example Web 2.0 technologies >>

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Example Web 2.0 technologies

Here is a brief sampling of the expanding contributions to Web 2.0 technologies. The best way to learn about the technologies is to try them. Many of these technologies are free and easy.

Blogs

- is short for Web log
- chronological, publicly available journal that users can comment

www.blogger.com

www.wordpress.com

Search the blogosphere at...

www.technorati.com

File sharing

- web service for sharing and distributing large amounts of data

www.bittorrent.com

openomy.com

xdrive.com

Image sharing

- web service for photo sharing and repository
- images can be tagged

flickr.com

zoto.com

Mash-ups

- refers to a web application or Web site that uses an API (Application Program Interface) to combine content from more than one Web site.
- The Google Maps API is one of the most popular APIs to integrate Google maps into Web sites

www.housingmaps.com

www.walkjogrun.net

Podcasting

- distribution of an audio or video file by subscription through an RSS feed
- delivered to your computer or an audio device like an iPod

Create and publish podcasts at...

www.odeo.com

www.audioblog.com

Social Bookmarking

- a service to publicly or privately publish bookmarks online
- social bookmarks are often categorized by user-defined tags

del.icio.us

furl.com

Social Networking

- a web service designed to build social networks for those with similar interest

www.myspace.com

www.linkedin.com

Tag

- user-defined keyword to organize websites or objects
- the open-ended labeling system that evolves from tagging is referred to as a folksonomy

Tag Cloud

- visual representations of the tags or keywords
- frequently used words or phrases appear bolder and/or bigger than those used less frequently.

www.43things.com

freesound.iua.upf.edu/tagsView.php

Web Aggregators

- a web service or software that retrieves syndicated Web content supplied by a Web feed
- the user selects content by subscribing to feeds

www.netvibes.com

www.suprglu.com

www.attensa.com

Web Feed: RSS (Really Simple Syndication) or Atom

- a web feed format that provides summaries of web content through syndication
- users can subscribe to receive web content regularly with a feed and compile preferred selections with an aggregator.
- widely used for subscription to blogs, podcasts, or news websites

Wikis

- collaborative Web site where users can add, delete, and edit pages
 - tracks the author revisions
- Build your own wiki at...

www.pbwiki.com

www.wikispaces.com

Others Examples

Web-based Word Processing

- www.writely.com

Online Calendar

- calendarhub.com

Project Management

- basecampqh.com

Peer Production News

- digg.com

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Pitfalls to using Web 2.0 Applications for Learning

David C. Lee

So you've gotten excited about all these new tools that are being launched and beta tested every day. Granted some are just way out fun (*MyStickies*) while others are stunning in their message (*10x10*) and scope (*Wikipedia*). Some are truly functional and powerful (*Flickr*, *SocialText*, *CoComment*). But let's face it; the vast majority of new 2.0 applications out there are JUNK!

Even with the best programs out there, many of the new toys we have on the internet just are not designed for learning situations. I hear of more and more situations in which the decision has been made to include new tools only to have bad if not disastrous results.

1) Don't be Dazzled by the Bling!

There are a lot of really hot looking new tools out there. The ability to combine powerful API's and web services is quite spectacular, but too many of the mash-ups out there are pure spectacle. If you browse through the links found in the amazing Web 2.0 Mash-up Matrix on the Programmable Web you find some very interesting but useless mash-ups. The key to success with 2.0 tools? Get to know them first before you unleash them on your learners. Understand how it works. Be prepared.

2) Don't depend on "the word on the net".

In this new world of disintermediated everything, PR and advertising are being sliced and diced to pieces. Now bloggers rule the world of expert opinion. Influencing a few bloggers today is much easier than one or two magazine reviewers 15 years ago. A case in point for me is Basecamp. To read all the press (and blogs and reviews) Basecamp is poised to blow Microsoft Project out of the water. After using it with a project team recently, I realize that at best, it's a project team communication tool. But Outlook is far better at that! Why Basecamp has won over the thought leaders is a mystery to me.

3) Don't assume anything about what your learners know.

What? Pre-assessments? Skill inventories? You've heard of those surely. In the ever changing, ever expanding world of Web 2.0 you can't make any assumptions about what your learners will know about these technologies. If your learners are struggling with blogging, you're unlikely to get them to understand the nuances of using folksonomies as tools in a community of practice.

4) Remember the principle of cognitive loading.

Every one of these tools has a ramp up period of learning for a person new to them. Just because de.licio.us makes sense to you today, doesn't mean that everyone else is on the same page. Learning a new technology is a very heavy burden that needs to be taken into account when building an instructional design.

5) Don't assume because your learners aren't hermits or that they have any clue as to how to behave in an online social networking environment.

Despite some progress, learning together is still alien to many learners. Don't assume that even the best of Web 2.0 is going to change that on its own. The social skills required in an online environment are very different than those required in face-to-face settings. In addition, do you have experience managing a class utilizing the software? Are you prepared to deal with breakdowns in communication?

6) Don't teach with Web 2.0 technologies until you've learned with them.

Now this may not be possible in all cases, but if you can, it helps immensely. You'll have a better understanding of what it feels like to have to write a blog entry, participate in a chat, record your experiences in a web search, and collaboratively write a paper with your team in addition to the text reading and lecture. Yeah, it's a lot, but it's a common error of enthusiasm that many instructors are making.

>> continued >>

7) Don't wing it.

Assume that your learners are going to be overwhelmed by the new technologies. The entire joy of Web 2.0 is that it's turning the world upside down. But that's not very comfortable place for learners to be. If you in turn then show that you don't understand how the technology works, you undermine their trust in you and their willingness to experiment with an unknown tool. Do your homework. Try a new tool out in one exercise. If it works the way you thought it would, then expand its use the next time around.

What it all comes down to is remember what you've learned about good instructional design. Know your content, your audience and the tools you propose using. Give the learners the time to learn new tools and techniques before you expect proficiency. Some of the Web 2.0 tools will indeed change the way we help learners learn – for the positive. But in our enthusiasm, let's not forget the foundations of solid learning and its facilitation. Learning with Web 2.0 can look like a flying trapeze act without a net. But, if we do our jobs right, we can see the safety wires we've put in place, that non-professionals can't see. ☒

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Articles

Why You Should Use Job Aids

(or, How to Avoid Teaching What You Don't Need to Teach)

David Ferguson

What's a job aid?

In the training world, a job aid is anything that tells a person what to do on the job, and when to do it, so the person doesn't have to commit that knowledge to memory. Examples include checklists, recipes, worksheets, software wizards, and product-selection guides. Gloria Gery in 1981 used the term "electronic performance support systems" (EPSS). These computerized systems for guiding performance on the job (by overcoming complexity, providing task information, displaying references, or supporting decisions) are essentially job aids with chips. Dr. Allison Rossett defined a job aid as "a repository for information, processes, or perspectives that are external to the individual and that support work and activity by directing, guiding, and enlightening performance" (Rossett, 1991). Same thing, but sounds better in an abstract.

I'm using 'job aid' both to highlight

the term's origin and to suggest its practical role even in support of more academic endeavors. Higher education doesn't tend to use the term 'job aid'. 'Cheat sheet' or 'tutorial' might work, though it implies quick-and-dirty (or that you should have learned this stuff). Actually, most tutorials are aimed at learning; job aids in a way are aimed at avoiding learning. Sometimes you use the term tutorial to smuggle in a true job aid. Job aids, by whatever name, may have value for you if you have knowledge that people don't need to memorize in order to carry out some task.

You can store knowledge inside someone's head, or outside of it. A good deal of the time, storing the knowledge outside not only makes sense but frees up time and capacity for the knowledge that people do need to learn. One key point: job aids such as checklists, worksheets, or wizards usually tell you what to

do, when to do it, how to do it, but almost never why. That's because the why is in the larger context. For example, say you have a blog you want to customize. To code some HTML or PHP quickly, you don't want the history of coding or the rationale of syntactic structure. You want to know what to write, in what order, and maybe what options you can use. The larger context is to use your blog for its purpose, not to become a PHP programmer. So, a PHP job aid eliminates the need for 'learning' (committing to memory) while achieving the result you wanted. You can concentrate on your blog.

Finding opportunity

You can't create job aids without knowing the tasks someone needs to carry out. That means you can describe them in detail and then look for characteristics that point to job-aiding as an option. For example (all things being equal), the more

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steps a task has, the more sense a job aid can make. Dialing a local phone number? Learn it (store it in memory). Using the 15 options in your voice-mail system, some of which have 12 steps? Job aid.

Likewise, the more complex the steps in a task are, the more sense a job aid can make. When you have complicated decisions or fine distinctions to make, a job aid can highlight the options. One proof of an effective job aid, in fact, is that an untrained person using the job aid produces results like those of a competent performer.

A third indicator is frequency, or lack of it. The less often you perform a task, the more sense a job aid makes. If you reformat a hard drive only once or twice a year, don't rely on memorizing the steps.

A fourth, related characteristic is the consequence of error. The more serious a mistake can be, the more sense a job aid makes. (See "reformat a hard drive.")

Almost counter-intuitively, the more likely the task is to change, the more sense a job aid makes. If the procedures for group projects change every semester, you'd put in a lot more work committing those procedures to memory than you would designing job aids to guide people through the updated procedures. Job aids always take less time than designing training-to-memory, unless your idea of training (or teaching) is talking.

Why job aids always take less time than instruction

The goal of instruction is learning. You have skills and knowledge for someone else to acquire and apply. In order to design instruction, you have to analyze the skills and knowledge, describe sequences, decisions, create objectives – all before you choose learning strategies, develop material, test, and revise it.

In other words, the analytical tasks for job aids are essential for any form of instruction: you're doing the analysis anyway. Once you know the tasks, the job aid considerations above help you identify where you don't have to go on to create instruction.

A field guide to job aids

You can describe job aids in many ways. One way is by their main purpose.

Decoders are job aids meant to explain or describe parts. For example, consider an exploded diagram of a machine, a software screen shot with callouts, or a list of HTML tags.

(see Figure 1)

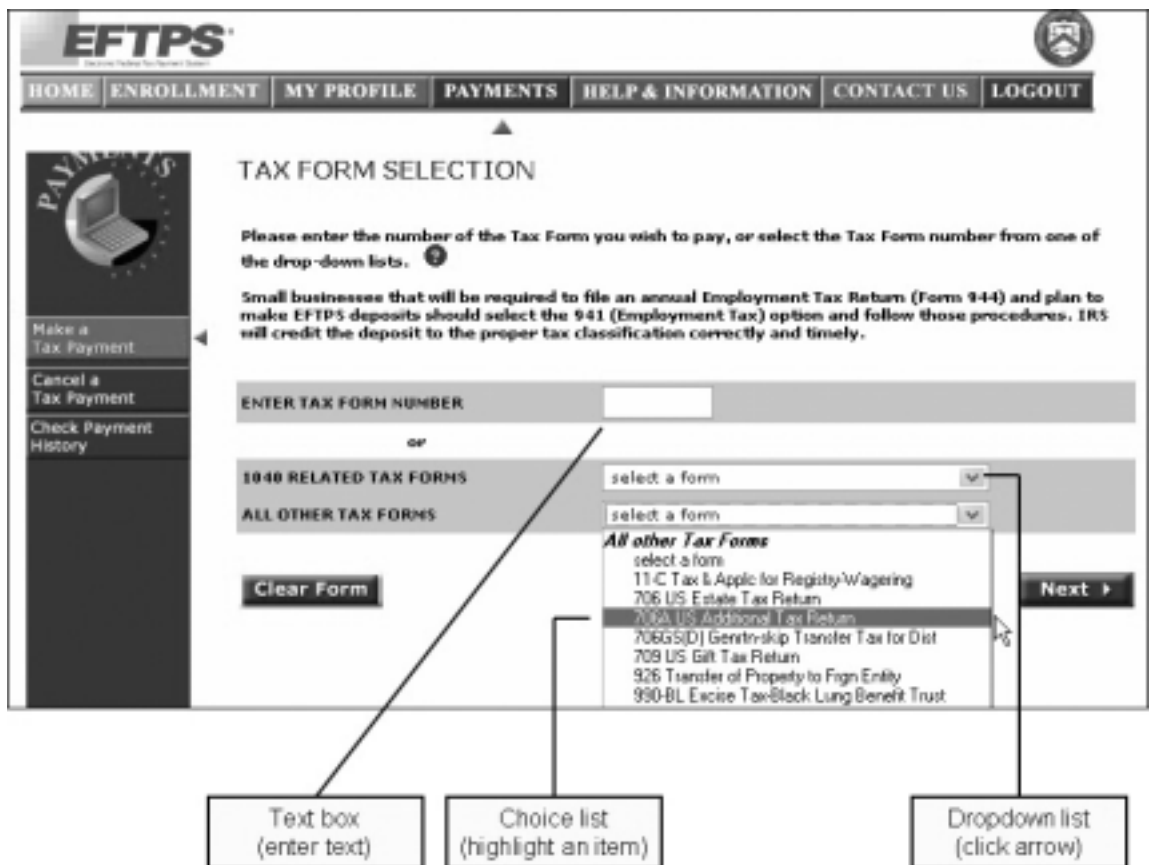


Figure 1. Decoder job aid

Articles

How to Prevent Page Breaks in Table Rows

Before you begin:

- These steps are for Microsoft Word 2003.
- You must have an existing table (or else insert one).
- You do not need to have any text inside the table.

1. Click anywhere inside the table.
2. From the Table menu, choose Table Properties.
3. In the Table Properties window, click the Row tab.
4. In the Row tab, locate the Options section.
5. Find the option "Allow row to break across pages."
 - If the box is not checked, do nothing.
 - If the box is checked, click the box to remove the check.
6. Click OK.

Word will not break the page inside a row of this table unless the row itself has more information than will fit on a page.

To prevent page breaks within rows, follow the same process, only in Step 5, check the box:

This job aid is a very simple cookbook. Note that it includes:

- "Before you begin" information to provide context
- Numbered steps because the order of steps matters
- A simple decision inside Step 5.
- Confirmation after Step 6.

Figure 2. How to prevent page breaks in table rows

Cookbooks and checklists are mainly step-by-step guides, often with few decisions (Do this, then do that, then do this other thing). (see Figure 2)

Worksheets employ checkboxes, entry fields, and calculations and almost always require input from the person using them. Examples include parts lists and estimating guides. In practice, the user might do the calculation (multiply line 7 by .33; add the total form line 8), or the software might. (see Figure 3)

How to Calculate Body-Mass Index

1. Enter your body weight in pounds.
2. Enter your height in inches.
3. Multiply height by weight.
4. Divide the answer on line 3 by 703.
5. Divide the answer on line 4 by 703.

The result is your BMI.

This job aid is a simple worksheet. A worksheet provides an organized format for entering data. The person using it enters data and makes calculations according to the job aid's instructions.

A more complex example might be a construction or repair estimate. The person using the job aid would check off certain types of work, calculate the per-job or per-hour cost, and compute a total.

Figure 3. How to calculate body mass index

How to Select the Form for Filing

| IF INCOME is | And if AGE is: | And if STATUS is: | Then do this: |
|-------------------|----------------|-------------------|-------------------|
| Less than \$2,000 | --- | --- | (No need to file) |
| \$2,000 - \$4,999 | Under 18 | --- | File form D18 |
| | 18 or over | --- | File form S |
| \$5,000 or more | --- | Single | File form S |
| | --- | Married | File form M |

This job aid is a decision table. Note that:

- Each condition ("IF") gets its own column.
- Each action ("THEN") is a final result.
- IFs come before THENs, just as on the job: You see a condition and you choose an action.
- Not every condition necessarily applies to every action.
- The same action can appear as the result of different sets of conditions ("File form S")

For a more complex task, a set of conditions can lead to a series of actions ("sign form M, attach the estimate, send to Finance") or even to another job aid ("if married, see Job Aid M").

A set of conditions never leads to a choice of actions ("File form M or form N"). There must be different conditions (or else you have a poorly-designed procedure).

Figure 4. How to select the form for filing decision table

Decision tables are job aids incorporating IF / AND IF / THEN logic. If the amount is less than \$200, approve the purchase. If the amount is \$201 - \$500 and it's for software, send to the dean; otherwise, send it to the business office. If the amount is over \$500, send to the procurement office. (see Figure 4)

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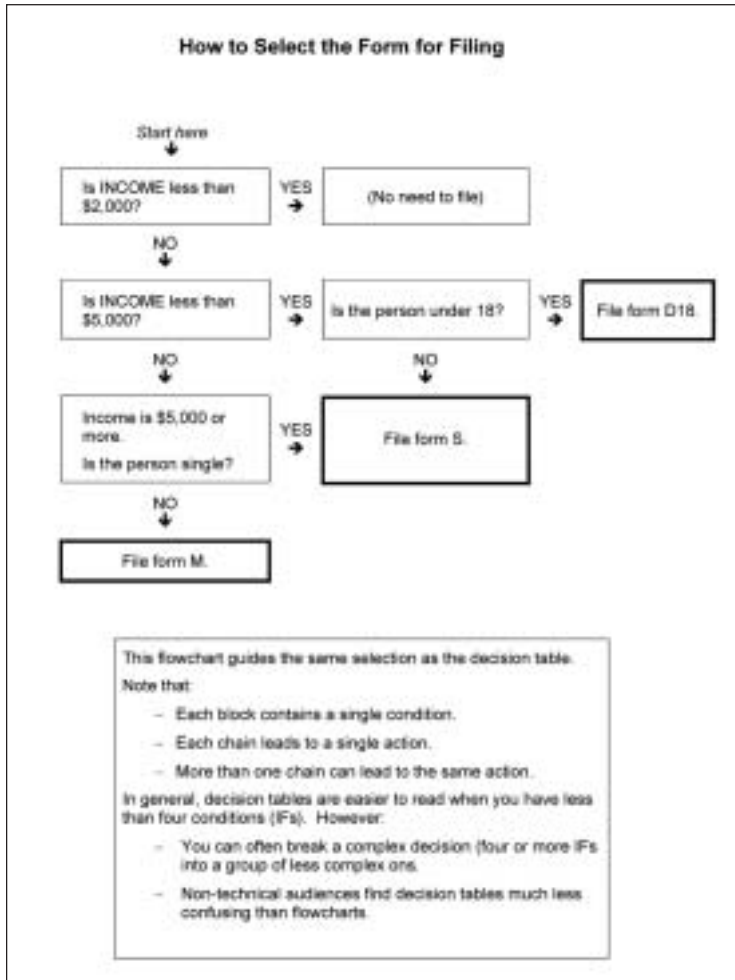


Figure 5. How to select the form for filing flowchart

Flowcharts are decision tables in another form. Generally, flowcharts suit users with technical or software coding experience (engineers, programmers) while decisions tables suit nearly everyone else. (see Figure 5)

For more complex tasks, you can combine the formats mentioned above. For example, you might have a cookbook style for several steps, then a decision table to highlight options. You can view an example for extreme programming at <http://xp123.com/jobaids/index.shtml>.

Conclusion

I hope you see ways to use job aids and avoid (unnecessary) teaching. Job aids store information people need in order to accomplish some task. Knowing characteristics of a particular task (steps, complexity, frequency, consequence of error) helps you decide whether job aids are a worthwhile solution. The specifics of the tasks (simple sequences, calculations, decisions) tell you the type of job aid you need.

It always takes less time to develop job aids for a task than to develop instruction (training to memory) because you perform the same initial analysis. Tasks appropriate to job-aiding don't need the further design and development of instruction.

In some cases, job aids act like training wheels. People use the job aids until they internalize the steps or decisions. (If you don't want something to

happen, set up structures to prevent it. Nobody wants to rely on the cockpit crew remembering all the items on the preflight checklist.)

As a bonus, people have more time available for learning the essential parts of the information – the skills and knowledge that do belong in memory.

If you're not using job aids, is there a reason? ☒

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Articles

A Community of Videoconference Users

Trevor J. Woods

Introduction

Funded by Alberta's Education ministry, and launched in September 2004, VcAlberta.ca is helping to create a community of videoconference users across Alberta's provincial education system and is providing a central resource for all things related to videoconferencing in an educational conference. It was developed as a joint project between Mount Royal College and the University of Lethbridge in consultation with those using videoconferencing in an educational context in Alberta. The web site has three major goals:

1. Increase the number of videoconferences occurring in the education system.
2. Improve the quality and experience of videoconferences.
3. Build a community of videoconference users across the provincial education system.

To meet these goals, the VcAlberta.ca web site contains a central repository of information that lists the sites that have videoconferencing abilities and their logistical information (such as IP address, equipment and capabilities, and contact information). Each post-secondary institution and K-12 school district in Alberta maintains its own information. The videoconferencing directory is database-driven, making it easily searched and updated. The directory is the cornerstone of the site because it provides the opportunity to connect sites together. It provides the details of who has videoconferencing capabilities, what those capabilities are, and who to contact to plan a

videoconference session. As such, most of the information in the directory is open to the public and one does not need to log in to gain access. However, some of the information contained in the directory could be considered private by some. Because of this, key pieces of information (IP addresses, email addresses, and cell phone numbers) are only available if one logs into the directory. The other key advantage of the directory is that it draws users to the site when they are looking for facility and contact information. Once users are at the site, it becomes apparent to them the many other features and useful resources that can assist them.

The second most important feature of the website are the best practice articles. These are designed to be short and focused articles on a specific topic so that users can easily and quickly find information they are seeking without reading several pages of content that they are not interested in. The articles attempt to be point form in nature and make use of pictures and diagrams to highlight main points. An important feature of the articles is what the site calls 'talk back'. This feature allows web site users to leave a comment or ask a question on the article page. A comment may point out something missing from the article, or ask a question for the site administrators, or someone from the community, to answer. Examples of articles include: Things to Avoid in a Videoconference, Room and Environment Considerations, Being a Successful Participant in a Videoconference, How to Chair a Videoconference, and Participant Location and Camera Angles.

There are many tools that have been developed to make things easier for videoconference users. These tools include being able to calculate travel distances to determine from a time perspective whether one should travel or attend via videoconferencing, a section to look up North American Area Codes for ISDN users, a glossary of terms, a tool to look up Alberta's telephone prefixes, a meeting planner, and a tool to look up time zones around the world.

Of particular interest is the online chat tool. Many videoconference users have requested a simple web-based chat interface that allows them to communicate with the other sites that are participating in a videoconference. This allows them to identify and troubleshoot any issues without interrupting the session. For example, one site may not be using their camera presets when different people talk. The backchannel text chat allows the other sites to request this of the problem site without interrupting the videoconference. The advantage of this chat tool is that it is web-based and does not require any special software or require users to use the same instant messaging system such as YAHOO, MSN, and AIM. Participants are not required to share their personal or private 'screen names' from these instant-messaging networks with strangers. Users can schedule a chat room or create one for immediate use. One can also password protect their chat rooms to ensure privacy among the videoconference participants. This has been the most popular tool on VcAlberta.ca and is heavily used.

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One of the most requested features of the site is the news section. People asked for a method to be able to share special events and professional development opportunities in an effort to help create a community of connected videoconference users and inform each other what they are doing. The site provides capabilities for individuals to easily and independently add news and events to the site through the use of an online form. News and event articles are then posted once the site administrator has approved them. The site also allows users to email their news and events to the site administrator if they do not wish to use the online form.

This site is designed to help build a videoconferencing community and a culture of continuous improvement of the videoconference experience. The site also contains sections for FAQ's annotated links, and a section for video's, research and other documents.

VcAlberta.ca provides four major benefits to Alberta's education system:

1. **Raise the profile of videoconferencing in Alberta educational institutions**—By collecting information about which educational institutions have the facilities to videoconference in Alberta, and raising awareness of this within each institution, the site raises the visibility of videoconferencing. In making institutions aware of sites they can connect to, the site informs researchers, educators, and administrators about whom they can collaborate with using videoconferencing.
2. **Build support for SuperNet and increase its usage**—SuperNet is a high-capacity network completed in 2005 that connects Alberta's schools, hospitals, libraries, post-secondary institutions, and government offices. It provides end-to-end quality of service (QOS) guaranteeing low latency and zero packet loss on the network that is critical for real-time applications such as videoconferencing. (More information about Alberta's SuperNet can be found at: <http://www.albertasupernet.ca/>) VcAlberta.ca facilitates and provides support for videoconference research and educational collaboration that exploits the capabilities of SuperNet. The increased number of videoconferences that result from VcAlberta.ca is increasing SuperNet usage. The web site helps educators discover SuperNet and the opportunities beyond videoconferencing that it provides.
3. **Make it easier to connect**—VcAlberta.ca makes it simpler to organize videoconferences. It informs people of the opportunity to videoconference with many other institutions. Videoconferencing is of little use unless one knows about others they can connect to. Vcalberta.ca provides this information making it easy to contact those responsible for the facilities and coordinate videoconference sessions. It also provides valuable information about the technology standards and standard solutions work that is currently underway by the ministry thus making it easier for institutions to develop their own videoconferencing systems.
4. **Improve the videoconference experience**—Institutions have varying videoconferencing capabilities and different levels of experience in hosting, and participating in, a videoconference. As more sites connect with each other on a regular basis, a community of users emerges. This community can work together to improve the videoconferencing experience. Experienced sites that have learned how to conduct a successful videoconference can teach less experienced sites what they have learned. This information can then be documented and posted to the VcAlberta.ca site for others to use. By collecting best practices and other educational materials such as lesson plans, post-secondary institutions and K-12 school districts have a central resource to assist them in improving their facilities and the quality of the videoconferences they host. The site encourages more institutions to acquire videoconferencing capabilities, and/or improve their existing capabilities as more people use videoconferencing effectively. The key feature of the site is that it is community driven. That is, the content and other contributions come from those engaged with videoconferencing in Alberta's learning system.

For more information about video conferencing in Alberta visit, <http://vcalberta.ca/>. ☒

Articles

Electronic Lifelong Learning Portfolios and the Reflective Process

Travis Seaman

"We do not learn from experience. We learn from reflecting on experience."

– John Dewey

In recent years, there has been an increased focus on the importance of lifelong learning in different aspects of Canadian life, including that of individuals, communities, and businesses. Given the frameworks of our knowledge economy and our role in an ever-changing global community, it's vital that we respond appropriately and quickly to these different aspects of Canadian life. Different people would offer diverse definitions of lifelong learning, but it is fair to suggest that, regardless of these different definitions, being a lifelong learner allows an individual the capacity to react appropriately and, if needed, quickly, to ever-changing or new environments, whether they be personal, academic or professional in nature.

One way that our learners can develop life-long learning skills is by developing strong critical, reflective thinking skills. Being reflective in nature is a lifelong learning approach that will better serve individuals in the different aspects of their lives. Traditionally (and generally speaking), many of our learners have not often been asked to think about their learning experiences. In many instances, their only challenge has been to complete and pass course and program requirements, such as pen and paper-based tests, which may not truly prove that learning has occurred. One of the criticisms of relying on tests to assess course knowledge is that learners often 'do what it takes' to pass an exam and then forget the material soon after completion. In learning environments where there are a variety of authentic assessments for learners to develop competencies, the impact of learning would be increased if learners were given the opportunity to reflect on what they have learned and how they might use this information in the future.

The connection to the development of an electronic lifelong learning portfolio (also referred to as electronic webfolios), is strong. This portfolio is intended to be a place where learners collect items that showcase their knowledge, skills and abilities related to a wide variety of learning experiences, whether they be formal, informal, or accidental. However, it has to be more than a place where learners show their achievements, "An electronic portfolio without reflection is just a fancy electronic resume" (Barrett, 1990). Electronic learning portfolios provide an excellent avenue where learners can develop skills of reflection by storing items related to their learning experiences and by providing critical reflection related to these experiences. Currently, electronic lifelong learning portfolios are being piloted at Bow Valley College, with wider implementation across several programs targeted for September 2006. In the development of Bow Valley College electronic learning portfolios, learners are expected to design learning portfolios that not only showcase their knowledge, skills and abilities; they must reflect on their learning experiences by using a What-So What-Now What approach. This approach asks learners to state what the learning experiences are or represent, what their roles were, what they learned of themselves and how they might apply or change things in possible future interactions with people and processes. This process of reflection is one learning tool that Bow Valley College learners will use to develop lifelong learning values and skills that will serve them well beyond graduation from their programs.

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Updates

University of Calgary: Inquiry through Blended Learning Program

Dr. Norm Vaughan



The University of Calgary defines blended learning as a blending of campus and online educational experiences for the express purpose of enhancing the quality of the learning experience. Blended learning is seen as an opportunity to fundamentally redesign how we approach teaching and learning in ways that higher education institutions may benefit from increased effectiveness, convenience, and efficiency. At the heart of blended learning redesign is the goal to engage students in critical discourse and reflection. The goal is to create dynamic and vital communities of inquiry where students take responsibility to construct meaning and confirm understanding through active participation in the inquiry process. These elements of blended learning are having a profound influence on how we approach teaching and learning at the University of Calgary.

The University created the Inquiry & Blended Learning Grant Program in 2004 in order to provide faculty with the time, resources, and support to redesign their courses for inquiry and blended learning approaches. This program consists of course redesign grants (ten grants of \$10,000 and one \$30,000 grant for a major course redesign), which faculty can apply for on an annual basis. The proposals are reviewed and awards granted by the University's Inquiry Learning Action Group (ILAG), which is comprised of students, faculty and senior administrators. Selection criteria is based on applications that demonstrate true innovation in teaching and learning through inquiry and blended learning approaches and enhance the quality of teaching and learning (e.g., increased student discourse & collaboration).

To date, well over 30 courses have been funded and are in various stages of redesign. Several of the courses have eliminated lectures entirely in favor of more engaged learning processes. Redesign is a very time-intensive process that includes consultation throughout the development process. This process is facilitated through the Teaching & Learning Centre's (formerly the Learning Commons) Inquiry through Blended Learning (ITBL) program, which is a blended (face-to-face and an online) community of inquiry, emphasizing a scholarship of teaching and learning (SoTL) approach to the redesign process.

The ITBL program is designed to help faculty define their course goals and expectations, redesign their learning activities and assessment assignments, adapt and develop eLearning tools, evaluate course implementations, and disseminate results. The program begins with an initial project orientation meeting. This meeting involves members of the faculty course redesign team (i.e., faculty who teach the course, support staff and graduate students), representatives from the Teaching & Learning Centre (TLC), along with Library and Information Technologies. At the meeting, the project proposal is reviewed and key questions from a course redesign guide are discussed. Project timelines are established and monthly or bi-weekly project team meetings are scheduled. Team members are also expected to attend monthly ITBL project cohort lunches and participate in a series of online activities, which are facilitated within a Blackboard course site.

In addition to the ITBL program, the TLC provides a number of other professional development opportunities related to inquiry and blended learning, which are available to the entire campus

community. These opportunities include a blended learning workshop series plus individual and group consultations (i.e., departmental workshops). A number of external experts in this area have presented at the University (e.g. Dr. Stephen Sorg, Dr. Carol Twigg, Dr. Curtis Bonk) and these presentations have been archived in Macromedia Breeze format on the TLC Web site (<http://tlc.ucalgary.ca/>). As a follow-up to Curtis Bonk's visit, an online study group was created to discuss and debate various chapters within the Handbook for Blended Learning that he co-edited. Curtis and one of the chapter author's, Dr. Randy Garrison, were active participants within the discussions.

Based on conversations with faculty involved in the ITBL program, a series of Tip sheets (2 page handouts) have been written to address common questions, issues, or concerns that are encountered within the course redesign process. An ITBL Resource Wiki has also been created for faculty to share ideas and resources related to inquiry and blended learning.

The first round of Inquiry & Blended Learning projects are currently being implemented and a number of evaluation studies are being conducted. The University's Office of Institutional Analysis (OIA) is providing data with regards to student grades and withdrawal/drop rates in the redesigned courses (for comparison with the traditional sections). Student surveys are being deployed within each of the redesigned courses and faculty surveys, interviews, and focus groups are also being undertaken. Early evaluation results of these redesigned courses suggest increased student interaction with teachers and peers plus more meaningful engagement and understanding of course concepts. ☒

Updates

Mount Royal College: Student Summer Sandbox

Theresa Matus



The Mount Royal College Academic Development Centre (ADC) will offer its Student Summer Sandbox again in 2006 for a fourth summer. This highly successful initiative, which runs from May to August, is supported by a generous donation from NEC.

Summer is a perfect time to tie up loose ends when it comes to completing educational technology projects. The Summer Sandbox initiative offers Mount Royal College (MRC) faculty members support in developing, sustaining, and revising their educational technology projects in time for the fall start-up of classes.

The ADC Instructional Design team provides support for the program. The initiative provides an opportunity for two students, one from each of the Computer Information Services and Applied Communications: e-Publishing programs, to complete one of two Directed Field Studies (DFS) courses toward the completion of a four-year applied degree. During the summer of 2005 our students assisted MRC faculty members to complete 25 educational technology projects.

The Summer Sandbox initiative aims to pair faculty members with technology-savvy students in order to assist them in completing small-scale technology projects over the course of the summer. Each project is initially assigned a maximum of 30 hours, with the opportunity for assignment of additional hours, based on the overall status of projects as the summer progresses.

Faculty members apply to participate in the program. In early May, after proposals have been vetted for their suitability, faculty members meet with staff and students to establish a contract/proposal, which is intended to articulate the project deliverables and guide the work on each project.

The following types of projects are considered for assistance from the Summer Sandbox ...

- projects begun by faculty but requiring additional support for completion
- educational technology projects, currently in use, but requiring regular maintenance and/or updating
- small projects requiring development "from scratch"

Potential project activities may include, but are not limited to ...

- repairing known bugs that compromise usability in existing courseware
- providing technical editing services
- revising existing content in order to enhance usability and maintain currency
- developing digital learning objects for use in online courseware and/or in the classroom
- scanning and digitizing course-related material
- developing digital test banks ☒



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Updates

Bow Valley College: Spring has Sprung

Moira Fields



Whew, “Spring has sprung”, and new projects are budding up all over. Darcy Rollack, an Instructional Designer in the Learning Resources Services is currently finishing up an interactive CD-ROM which uses audio, video, animation, graphics and text to introduce WHMIS (Workplace Hazardous Materials Information System) to people with low literacy skills. He is also starting the development of four one-day (6-8 hours) courses to increase health and literacy skills, particularly in an aboriginal audience. Darcy continues the redevelopment of the Nutrition Manager program as well as updating the Integrating Essential Skills in Existing Curricula workshop/course and developing an open-accessibility version of our Learning Strategies for Success course.

Russ Wilde—our technology advocate—has started a technology newsletter which is very well received at the college. Russ is encouraged by the technology innovators he has sparked with the newsletter. His first issue asked,

“Have you heard about Web 2.0? No? It’s revolutionary, it’s amazing, it’s...well, no one knows exactly what it is—yet! Simply put, a number of new technologies (with names like RSS, XML, and Ajax) are being used to create highly interactive Web sites that offer services far beyond the static content of the original Web, essentially turning pages within a browser into a basic computing platform. This allows Web sites to offer services such as word processing, spreadsheets, shared calendars, and other really useful tools.”

One of Russ’s favourites is Netvibes, a new personal news/RSS feed aggregator page. Once you create a free account, you can populate it with RSS feeds from all your favourite sites and view them from one starting point, from any web-connected computer. You could create a current events page for your class so everyone can monitor the same stories as they unfold. A “webnotes” feature allows users to post notes to the page—a great way for students to comment on what they read. Other sites offering similar services include Google Reader, Windows Live, and Suprglu. Need a place to store bits of information, reminders, URLs, and everything else? Protopage is a very simple service that allows users to create virtual “stickies” that are accessible from any Web-connected computer. Changes are saved automatically—a very nice touch. Russ always has great tips for Bow Valley Techies.

Christine Marles, Manager of the Learning Resources Services (LRS) is working with the Campus Calgary Digital Library Consortium, as we move to add library services to the LRS. Bow Valley College is a partner in the University of Calgary Digital Library launched Friday March 31, 2006. While President and CEO, Sharon Carry of Bow Valley College spoke from the stage at the University of Calgary, a live feed joined all the partners together to celebrate this ground breaking event. Cheers and cupcakes marked the arrival of this service in the LRS.

And that’s this month’s “sprung” projects from Bow Valley College. ❖



Sidethought

Jay Cross is CEO of Internet Time Group and founder of the Workflow Institute. He is currently writing his book *Informal Learning*. Thousands of people read his Internet Time Blog every day. (<http://internettime.com/wordpress/>) This article was reprinted with permission from Jay.

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It's Semantics

Jay Cross

Several years ago, a manager told eLearning Forum that his company's efforts to consolidate dozens of training efforts bogged down for three months while they struggled for a consensus definition of eLearning. Let's not make the same mistake with Web 2.0, Learning 2.0, and informal learning. We need to clarify what these terms mean or abandon them.

It takes guts for a publication named *Business 2.0* to announce that the term Web 2.0 is headed for the dustbin, sort of like *Wired* trying to champion wireless. *Business 2.0* doesn't deny that the web is morphing into something much larger. It suggests we call today's web by the name Next Net.

I'll grant that it is tiresome to repeat the web's feature list: "is deeply collaborative," "creates a world of endless mix and match," and "enables small groups to assemble powerful applications." Of course, it's also the web as platform and the read/write web, not to forget the web desktop. Some shorthand would be nice. Trouble is, terms like Web 2.0 and Next Net would become obsolete before coming into common parlance.

This is the internet we are talking about. The net is the poster child for change. Ten years ago, there were 16 million internet users; today they number more than a billion. There are 30 million blogs, sixty times as many as three years ago.

In a private conversation, Dave Ferguson aptly pointed out that when your mental energy goes into the 2.0 part, you risk focusing people on the terminology rather than what it can accomplish for them.

My recommendation: continue to call it the Web. No one will ask what you're talking about.

Learning 2.0 is in the air. A year from now, soothsayers at symposiums will be sharing their wisdom that "as for Learning 2.0, it's not the 2.0 that matters; it's the learning." Why wait? I'll tell you right now. The 2.0 doesn't matter. Learning 2.0 is a useless term. It does not add meaning to the conversation. It is unnecessary baggage.

Don't get me wrong. Web services, openness, and interoperability lay a foundation for learning a hundred times more effective than the learning we are accustomed to. The dream of workers, workflow, and workspaces all humming along in harmony as nodes in a global network is delightful beyond imagination.

Better that we devote our strength to integrating learning into the emerging technology and business landscape than to quibbling about whether incorporating mash-ups and wikis transform regular learning into Learning 2.0.

Geez, before you know it research houses would be selling magic quadrants for Learning 3.0 providers. Consultants would outsource only to Learning 4.0-qualified suppliers. Another company would counter with on-demand Learning 5.0 (Now, with services!). Elliott would host special events on Learning 6.0. Josh would sell reports on Learning 7.0 (You can blend 5.0, 6.0, & 7.0!). And I would still be ranting that this emperor has no clothes.

My recommendation: let learning remain learning. Don't call it Learning 2.0 or, worse yet, Next Learning. You probably don't want the title CL2.0.

Informal Learning, giant shrimp, important trivia, genuine fake, dry beer.

Yes, some people consider informal learning an oxymoron. Isn't learning the antithesis of informality? How can you control something informal?

Maybe they were thinking of informal training. That doesn't make sense unless you're applying it to a teacher who wears aloha shirts and flip flops to class.

Training is formally imposed. The word training derives from a medieval term meaning "manipulate in order to bring to a desired form." Attending a training program does not mean learning takes place. You can lead a boy to college but you can't make him think.

You can coerce today's knowledge workers into going through the motions but you can't control what goes on in their heads. You can set up conditions that foster learning. You can remove obstacles to learning, help people make connections, and encourage people to learn by experimenting.

Training came packaged in training programs. What went into a program and how it would be delivered was a formal decision. Setting up a learning ecology, what I sometimes call a learnscape, gives free-range learners a place to discover what they want to know. If they learn through trial-and-error or by looking over the shoulder of a colleague or through reflection while driving to work, that's informal learning.

Recommendation: let's keep informal learning until it's common knowledge that informal learning is primary way people make sense of the world. ☒

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