



**Meeting the Need: Student Success in the Online Environment**

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**Teaching – Learning – Development – Administration**

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**A Literature Review**

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June 30, 2010**

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## I. Background and Literature Review Objectives

On May 13, 2010, a press release appeared in "[the current](#)", Bow Valley College's (Calgary) employee newsletter, declaring that adult online student enrolment in Alberta had passed 10,000 course registrations. This announcement came from [eCampusAlberta](#), a consortium of 15 Alberta post-secondary colleges and technical institutes. This consortium now "offers over 400 courses and 45 accredited online programs" and is a clear indication, according to Bow Valley College President and CEO, Sharon Carry, "that post-secondary education online is growing".

In the seventh annual Sloan Survey of Online Learning (Allen, Seaman 2009), online course enrolment in the United States rose close to 17%, with almost 4.6 million students availing themselves of some online education as of the fall of 2008. This growth, in part, is attributed to an [economic downturn](#), yet there is no doubt that student demand for online courses is outpacing face-to face delivery and shows little signs of abating in the United States, Canada and certainly the province of Alberta.

Growth has been steady for well over a decade and research that attempts to explore some of the fundamental questions surrounding online education is vast and growing almost exponentially. In an attempt to share in this burgeoning body of information, Bow Valley College sees the importance of undertaking a literature review (followed by structured practitioner interviews and student surveys) of online educational Best Practices in four broad areas: Teaching, Learning, Development and Administration. None of these four areas are purely distinct from each other in this context and overlaps are apparent. Nevertheless their relative distinctiveness does provide a structure from which to identify current ideas, practices and directions in this truly significant area of inquiry.

Beyond an attempt to isolate some of the factors that determine what constitutes effective online teaching practices, learner characteristics, course development challenges and online administrative concerns and opportunities, this review's central objective is to come to some general conclusions about the current state of adult online learning and to offer some recommendations for future areas of investigation. This review can also be viewed as a collaborative starting point in many ways and one that may well assist other practitioners involved in adult education in Alberta to look more deeply into current and future best practices.

What is a Best Practice? Wikipedia defines it as "a technique or method, process, activity, incentive, or reward that is believed to be more effective at delivering a particular outcome than any other technique, method, or process, when applied to a particular condition or circumstance." The idea is that with "proper processes, checks, and testing, a desired outcome can be delivered with fewer problems and unforeseen complications."

With that in mind, this literature review is a hopeful start of a new forum for an exchange of ideas in online educational delivery in the areas of:

- **Teaching**
- **Learning**
- **Development**
- **Administration**

## II. Methodology

First a quick definition of just what “online” learning is in the context of this review. Rather than differentiating here between the proportion of content delivered online as opposed to face-to-face, this review will maintain its focus on delivery where most or all of the content is delivered electronically. A useful definition for the purpose here is “learning facilitated online through network technologies”. (Garrison, Anderson, 2003). There are web-facilitated courses where assignments and a syllabus can be posted online using web pages or course management systems. There are blended courses which make use of some face-to-face delivery with a large proportion of the content delivered electronically. And there are fully-online courses that include both the use of asynchronous communication tools as well as synchronous student/instructor connection. For this review, online or e-learning refers to courses delivered via computer either synchronously or asynchronously. There is a further distinction. Most online courses can be grouped together as cohort-style classes with a peer-to-peer collaborative component. There is also a hybrid online instructional offering called “continuous-intake” or “rolling intake” which enables students to begin courses at a time they choose and completing same within a prescribed time limit; six months start to finish, for example. Regardless of these variations, this report will concentrate on the four areas outlined with a focus on opportunities for improvement within these categories.

The researcher began his inquiries using bibliographies available in Guides to Online Teaching and Learning (Jossey-Bass), consulting various “handbooks” of online learning and exploring the many “must consult” texts by experts in distributed learning and online course design. These investigations were combined with targeted searches of internet databases of organizations and associations, both Canadian and international. These searches include using a large variety of key word permutations and combinations ranging from “online learning” and “online adult education” to “best practices” and even “online retention” and “online integrity”. This experience was like opening a giant vault containing a vast wealth of valuable and disparate information available in almost endless channels and corridors. The exercise was an opportunity through which to both lose one’s way and discover much of real value. Additionally, a number of structured practitioner interviews and student survey opportunities are planned and these will follow in the near future.

To make this review process manageable for this researcher, four categories were used in an attempt to effectively offer a perspective on the burgeoning information available. A substantial list of references is provided both throughout the document and at the end.

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**Keywords:** Adult learning, online learning, distance education, teaching methods, pedagogy, course development, problem-based learning, self-study, knowledge management, curriculum design, differentiated instruction, motivation, online integrity, completion rates, student retention, web-based instruction, teaching online, online courses, online education, course management, teaching styles.

### III. Categories of Inquiry

#### A. Teaching

***“Nothing has brought pedagogical theory into greater disrepute than the belief that it is identified with handing out to teachers recipes and models to be followed in teaching.”  
(Dewey 1916:170)***

The above caution by Dewey is gleaned from a chapter heading in Learning in the 21st Century: A Framework for Research and Practice. (Garrison & Anderson, 2003) There are certainly “recipes and models” and pedagogical theories in abundance surrounding teaching (both traditional and online) but there is consistently a general sense that effective teaching within the e-learning environment must maintain both a “scholarly rigour and interpersonal sensitivity.” (Rudestam & Schoenholtz-Read, 2002). That does mean that effective distance education must and often does include a range of skills and instructional methods that can be seen as unique and challenging. Here are just a few of the “requirements” for effectively teaching online that appear repeatedly throughout the literature available:

- providing an optimum level and quality of instructor presence within the course
- offering regular and timely feedback to students regardless of the “depth” of questioning
- allowing for ongoing opportunities for students to take responsibility for their own learning
- assisting students with time management techniques
- providing students with the motivation to make the most of online discussions
- responding purposefully to all summative and formative submissions
- isolating and acting upon opportunities for differentiation of instruction
- revealing for the student how online course success can translate into post-course lifelong learning opportunities
- engaging in one’s own ongoing self study as an online practitioner and educator

All these “requirements” take on an added dimension when considering the increasing popularity of online learning with adult students having a broad range of educational purposes and skills. There is much literature identifying the particular characteristics and needs of students accessing online educational opportunities. One example is the “State of the Field Review on E-Learning” (Rossiter Consulting, 2006) which confirms that online educational options are not only becoming increasingly popular with adults wishing to upgrade their education for job-related purposes but a growing number of non-traditional adult learners with low literacy skills, disabilities and those at-risk are availing themselves of this learning environment for a myriad of personal and professional reasons. And there is also great deal of information concerning practical “guidelines” instructors can follow to enable them to facilitate online courses with these students in mind. One article exploring excellence in web-based teaching (Henry, Meadows, 2008) posits the principles that “great online courses are defined by teaching, not technology” and that a “sense of community and social presence are essential to online excellence”.

So, what does the literature suggest that specifically makes for a good online teacher/instructor? Primary is subject matter knowledge. Instructors in exemplary online courses are seen as competent, highly skilled and diligent (Hopper and Harmon, 2000). “They had a good sense of humour, were excited about their content areas, and had high, clearly articulated expectations. They cared about their students, were confident, fair and were masters of effective feedback.”(Henry, Meadows). In short, good online courses are not as much “defined” by the technology they employ but by the instructor that creates and manages the content of these courses.

## “Presence”

In a cautionary note about online classrooms that tempers the optimism of delivering educational opportunities digitally with concerns for actual student learning, it becomes quite possible that “the technology that connects individuals in the online classroom vitiates the personal and intellectual experiences that are so essential to an education.”(Carstens, Worsfold).

As early as 1995, in the University of Idaho’s “Distance Education at a Glance”, this focus on the instructor rather than the technology in online delivery is stressed. “The key to effective distance education is focusing on the needs of the learner, the requirements of the content and the constraints faced by the teacher.” It is well researched that “the needs of the learner” can certainly be impacted by effective and ineffective use of technology in online courses and “the requirements of the content” rank high in terms objectives met or missed in this burgeoning environment. But the “constraints faced by the teacher” is a phrase that speaks loudly in the ever-growing body of literature surrounding online instructional presence.

### Timeliness and Rigour

Face to face is an environment of markers, whiteboards, paper, writing instruments and student/teacher dialogues. Facial expressions, carefully orchestrated and impromptu verbal responses to questions and student concerns serve to not just personalize the classroom experience but to further multiple learning opportunities. Online, it becomes a matter that presents a facilitation skill and commitment that can be demanding and at the same time gratifying according to OntarioLearns’ Handbook on Facilitating Online Courses. The list of “practical guidelines” outlined in this handbook includes:

- making one’s presence felt
  - ✓ use personalized feedback in a conversational tone
  - ✓ maintain a response regimen that is prepared, honest and accurate
  - ✓ be sensitive to learner concerns in a consistent, timely way
  - ✓ create virtual and punctual office hours
- establish relationships
- encourage participation
- develop an effective record keeping and file management system
- encourage procrastinators

(OntarioLoearn.com, 2001)

These “guidelines” and many like them appear throughout the literature. Chickering and Ehrmann (1996) refer to (seven) principles of good practice some of which include: the encouragement for contacts between students and instructors, prompt feedback and respect for diverse talents and ways of learning. The Institute for Higher Education Policy in a work titled *Quality on the Line* (2000) lists a set of benchmarks that indicate effective course structural principles that include rapid instructor response and enhanced student/instructor response to determine learning styles.

### Workload

Clearly establishing and maintaining a strong instructor/student social presence is significant if not primary in an effective and engaging online learning experience and this clearly indicates that the online instructor has a significant responsibility and workload. In “Humanizing the Online Classroom” (Weiss, 2000), the identified instructor behavior that is effective and appropriate for the online classroom “requires more thought and effort than we are accustomed to” in order to humanize the online classroom. Weiss further suggests the thoughtful use of “expressive language”, the creation of instructor biographies (with photo), and a “Virtual Break Room” in which students can “hang out” and chat. These seemingly minimal “accents” to the online experience are useful means of developing “connections” that pay dividends for both student and instructor. This does require an instructor commitment and availability that speaks of intellectual involvement in the course. Although online instructor workload is a concern, research reveals divergent views on the differences between online instructor time commitments as opposed to traditional time demands. Studies range from an increase of 14% (Tomei, 2006) of instructional time spent on an online course to a full 50% increase (Cavanaugh, 2005). Beyond a depth of content knowledge, online instructors require a growing cadre of [technology skills](#). However, there are abundant strategies suggested throughout the research to streamline the online instructional experience. In “Saving Your Sanity When Teaching in an Online Environment: Lessons Learned” (Karamidas, Ludlow, Collins, Baird, 2007) a range of “techniques” are offered that include:

- ✓ Efficient file management
- ✓ Extensive creation of video and audio segments (**not repetitive text responses**) for elaboration
- ✓ Daily/weekly course maintenance to avoid fatiguing repair sessions
- ✓ Encouragement of student independent research building skills
- ✓ Encourage and closely monitor academic Integrity (**proactive behavior reduces time-consuming instructor response**)

All of the above involve time commitments but this sort of instructor engagement does increase both instructor and [student engagement](#) (the NSSE offers a number of useful publications and presentations in this regard) and real instructor commitment is confirmed to aid in the creation of an ethical community of learners which builds and enhances meaningful and acceptable ways of communicating which can positively impact student ethical behavior (i.e. plagiarism).

## Integrity

Regardless of the level of instructor “presence”, concerns about student academic integrity stand out as one of the main issues associated with online education (Carbone, 2001). The question of student authorship can present the online instructor with some significant concerns. Classroom teachers have the ability to assign in-class assignments leaving authorial integrity unquestioned. Online instructors face a greater challenge to maintain an intellectually rigorous and ethically-sound learning environment that offers opportunities for effective assessment. Yet, through “smart assignment design” and teaching students how to handle resources -- coupled with regular discussions [about plagiarism] -- the temptations that online students have for “cheating” can be minimized, even dramatically. Although concerns about academic integrity can find a stronger connection to student learning rather than instruction, the relationship between instructional “presence” and student honesty is clear. Instructors inform students of just what plagiarism is and how to correctly paraphrase, quote and cite sources. Instructors can initiate their courses by outlining clear guidelines for academic honesty. Instructors can provide examples of plagiarized material and how to perform effective research. Instructors can focus their assignments more narrowly, require only currently published references and even limit the source materials to be used.

## Self Study

There is also a “humanness that lies at the core of what education is.” (Aoki, 1992) To develop professionally, educators need to take some time to look inside their own natures to try and discover what teaching truly means to them individually. [Self-study research](#) has grown dramatically over the last few years and Best Practices in online education certainly embrace professional self-study, the goal of which is to engage in the sort of reflection that aids in the better understanding of what shapes quality instruction (Sullivan, Rosen, 2008). Teachers can become researchers of their own practice and as they try to explore both consciously and creatively their teaching practice and their student’s learning they grow and develop as professionals.

## Conclusions

Research indicates some pressing areas for further investigation in the area of online “instructor presence” and outlines many of the challenges and opportunities faced by both new and experienced instructors. Clearly, the day-today challenges of effectively instructing in the online environment can benefit from some truly practical (and even spiritual) investigation. An exploration into best practices surrounding organizational skills and course management techniques can impact online instructor workloads and effectiveness. Strategies for reducing, over time, instructional preparation demands, and helping develop practical techniques for improving both instructor data management efficiency as well as methods to proficiently enhance the personal contacts with students are concerns that need fuller investigation. Practical, well-developed procedures for confronting issues surrounding student authorship of submitted material in an online environment are needed. Identifying and responding proactively to student-perceived opportunities for academic dishonesty can only serve to raise the integrity and rigorous consistency of distance delivered programs. Ways to engage students in ethical practices requires ongoing study. Readily- and regularly-used procedures that are proven to be effective

in producing responsible student behaviour, procedures that increasingly instil within the learner an attitude that shows both an appreciation and a cherishing of the pleasures of real self-directed learning need to be used and assessed in online programs. Finally, improving one's instructional practice can and does involve a heartfelt interest in investigating one's own individual commitment to more deeply understanding his or her professionalism. Becoming "reflective practitioners" is a valuable aspect of instructional best practices. Questions such as: Where does the desire to take responsibility for one's own learning thrive? Are there clear and recognizable components for purposeful online engagement? Are there truly unique instructor perspectives that find greater efficacy in a distributed environment? Is there a discernible even definable middle ground between instructor assistance and persistence? Asking and tentatively answering questions such as these and many more can well serve new and experienced online instructors.

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## B. Learning

***“It is the nonexplorers who rather naively assume that once they have a clear sharp picture in mind of where they are going, they can trust that picture through to the end. To be an explorer is to not know where, precisely and concretely, one is going. . . . The explorer feels your uncertainty and your fear and even sometimes your fury. However, he or she does not think these states of mind can be escaped. Instead, they are part of what the explorer explores.” (Vail, 1996)***

To be a learning “explorer” is to be a self-directed learner. According to Vail in *Learning as a Way of Being*, this self-direction is one that embraces experimentation, an acceptance of uncertainty, and the belief that learning is continual as well as reflective. This explorative learning “notices itself, and it notices itself noticing itself.” (Vail) Earlier, it was noted that adults with as many competencies and challenges as they have reasons for considering an online education alternative are accessing this type of learning opportunity. With this in mind, it is useful to consider some of the “characteristics” of adult learners by way of coming to a better understanding of some of the specific challenges facing online educators and particularly the needs of learners that can and do coincide with Vail’s prescriptions. Ultimately, this examination will lead to the importance of motivation in effective online learning and the ever-present issue of course completion and student retention.

### Adult Learners

“When adults teach and learn in one another’s company, they find themselves engaging in a challenging, passionate, and creative activity.” (Brookfield) This optimistic viewpoint is confirmed by the increased level of motivation adults bring to their learning circumstance. Adult learners have family and job responsibilities and approach new learning opportunities for the most part voluntarily with a highly-motivated and task-oriented perspective. (Merriam, Caffarella, 1999) Given their often challenging circumstances that include: multiple careers, aging parents, child care pressures, heavy financial burdens, extended periods away from the demands of a formal educational experience, and age-related learning obstacles, that can include increasing short-term memory loss (Merriam, Caffarella) the motivation level of adult students in the face of these challenges can be seen as a significant factor in their particular learning dynamic. This intrinsic motivation is not without [adult learning anxieties](#), however. Some of these anxieties can include fear of inadequate technological skills, poor study habits/experience, and doubts about their coping strategies. Armed with this awareness, the challenge for online educators is to keep the initial adult learner motivation high. (Wynne, 2008). In Michael Moore’s *Theory of Transactional Distance*, the teacher-learner relationship can be understood, from among other structural principles, through the perspective of the “nature and degree of self-directedness of the learner.” This points in the direction of individual learning differences, as well. (Cercone, 2008). There are many useful avenues of inquiry within the realm of adult learning theory and most explore concepts of the learners need for “authenticity” (Knowles, 1990) and the learner’s desire for “self-direction, flexibility, and the process of learning.” (Cercone) George Siemens writes of the knowledge needs of “mature learners who prefer to explore and experiment to create their own connections and pursue personal objectives.” (Siemens, 2005)

## Problem-Based Learning

Malcolm Knowles offers a supremely relevant viewpoint on the “andragogical process” that does stress an adult learning “orientation” that is more problem-centred than subject-centered. From this point of view it can be worthwhile to consider the role that the concept of Problem-Based Learning (PBL) can have in terms of possible best practices that can actively maintain student motivation in online learning.

John Goodlad found in his 1984 research study titled *A place called school*, that students indicated their favourite classes were physical education, fine arts or industrial arts because it was in these classes that they actually got to “do” something. To actively engage in learning rather than to passively receive is at the heart of constructivism, a concept that has been called “discovery learning” or “generative learning”. “Constructivism proposes that learner conceptions of knowledge are derived from a meaning-making search in which learners engage in a process of constructing individual interpretations of their experiences.” (Applefield, Huber, Moallem, 2001). Essentially, this “interpretation” of knowledge is one that emphasizes knowledge construction rather than knowledge transmission, the latter involving the learner recording information passed on by others (i.e. the instructor). From here it is a short step to the powerful learning applications that can be found within the area of problem-based learning. And from there a movement towards some “high-yield” strategies that can generate higher levels of student satisfaction and a subsequently positive impact upon student course completion and student retention rates.

“Real-life problems seldom parallel well-structured problems; hence, the ability to solve traditional school-based problems does little to increase relevant, critical thinking skills. Real-life problems present an ever-changing variety of goals, contexts, contents, obstacles, and unknowns which influence how each problem should be approached. To be successful, students need to practice solving ill-structured problems that reflect life beyond the classroom. These skills are the goal of PBL. With Problem-Based Learning, students engage in authentic experiences.” (Wikipedia)

There is a rapidly-growing body of research and critical analysis in the area of PBL with much to recommend its increased integration into adult online learning. Students are encouraged through the PBL process: to solve relevant problems that have a distinct real-life context, to seek out appropriate resources in the process, to encourage and develop self-motivated thinking skills, to self-monitor these developing skills and to build communication skills that are both ethical and collaborative. ([Problem-Based Learning Matters](#)). The problem, the question, the issue to explore “drives the learning, rather than acting as an example of the concepts and principles previously taught” (Holzl, 1999). PBL is constructivist learning and it encourages the individuality, the diversity and the multiple perspectives that comprise the adult students accessing online learning. “This approach to learning views diversity as a strength to be exploited rather than a problem to be solved” (Holzl).

Bridges and Hallinger (1991) note three conditions that improve student comprehension through the use of problem-based learning projects. Students are better at activating prior knowledge, they learn in a setting resembling their future context and they are able to elaborate more fully on the information they present. Significant, as well, is the additional fertile learning possibility that students move from the memorization of facts to actively searching for information and instructors move from disseminating information to assuming the role as a guide. This can be seen as a well-suited learning strategy in an online environment and expanded opportunities for employing PBL within the distance learning model is worthy of much further investigation.

### Completion/Retention Rates

“In distance learning students and teachers will find themselves playing different roles than is the norm in traditional education. The teacher is no longer the sole source of knowledge but instead becomes a facilitator to support student learning, while the student actively participates in what and how knowledge is imparted. More than any other teaching method, distance learning requires a collaborative effort between student and teacher, unbounded by the traditional limits of time, space, and single-instructor effort.” (*Barriers to Learning in Distance Education*. Galusha).

Although distance learning is seen as an excellent opportunity for engaging the adult learner, a loss of interest on the student’s part and the subsequent impact this lack of motivation has on course completion rates as well as online students deciding to continue in additional online course offerings can be significant. “High dropout rates are e-learning’s embarrassing secret.” (Frankola, 2001). Reported statistics reveal online courses with as high as 50-70% drop out rates. This “embarrassment” can be overcome in a number of ways, however. Although four characteristics of the successful online learner have been identified: they are independent and actively motivated, they enjoy working independently, they effectively manages study time around other responsibilities and they are skilled in communicative abilities (Maddux 2004), the integration of engaging, challenging and open-ended learning opportunities for mature online students can have a distinct impact of the learner’s willingness to “stay the course”. “Student motivation has a powerful affect on attrition and completion rates.” (Galusha)

### Conclusions

Research supports substantially the negative effect that lack of student engagement has upon both dropout rates and student willingness to pursue further courses online. The key to defeating this challenging issue is to engage the student early and to maintain that engagement. The proven results in increased student interest and motivation that courses making effective use of Problem-Based Learning opportunities have realized need to be seriously considered. A greater instructor awareness of student-by-student “circumstances” that impact course performance is not only an essential component of instructor presence; this essential awareness can have a profound impact on opportunities for diversified instruction and certainly impacts decisions surrounding actual course management and subsequent effects upon student motivation. Clearly realized and quantifiable opportunities for individualized formative student assessments --from a sound understanding of adult learning theory -- along with the development of strategies for diversified instruction, do influence student motivation and are areas worthy of increased investigation. A concerted effort by online instructors, course developers and support staff to embrace adult learning theory, opportunities for individualized instruction -- and to translate that understanding into simple, effective and well-research course design principles -- will serve to reduce student attrition rates.

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## C. Development

***“The truth is, if you bring technological innovations into your classroom in order to involve your students, you are not going to achieve learning any better than if you don't incorporate technology. A good teacher can reach students effectively when drawing in the dirt with a stick.” (Finch, Montambeau, 2000).***

There is a vast array of e-learning course development and instructional design resources available. There are fieldbooks, handbooks, textbooks, training packages, websites, online journals, forums, webinars (recorded and live), case studies, learning activities, games, podcasts, models, simulations and abundant critical theory exploring a wealth of topics concerning the delivery of online learning that covers topics on: training and development, collaborative learning, strategic planning, leadership, communication, coaching and mentoring, social media, differentiation of instruction, connectivism, and the list can continue and continue. The excitement and thoughtful reflection that surrounds “learning facilitated online through network technologies” is revealed through the remarkable depth and breadth of web resources that include:

<http://www.tonybates.ca/>,  
<http://www.tonybates.ca/resources/selected-bibliography-by-topic/>  
<http://www.educause.edu/>,  
<http://www.downes.ca/>,  
<http://cider.athabascau.ca/>,  
<http://emd.athabascau.ca/>  
<http://www.jcal.info/index.htm>  
<http://www.elearningpost.com/>,  
<http://learningcircuits.blogspot.com/>  
<http://karlkapp.blogspot.com/>,  
<http://www.astd.org/lc>  
<http://www.ibritt.com/resources/index.htm>  
<http://adeta.org/?q=elearninglinks>  
<http://www.westga.edu/~distance/ojdla/>  
<http://people.uis.edu/rschr1/onlinelearning/>,  
<http://edtechdev.wordpress.com/>  
<http://edtechdev.wordpress.com/journals/>  
<http://www.uwex.edu/disted/journals.cfm>  
<http://spreadsheets.google.com/pub?key=pcrOYWnMW4tsVjqKX0hC6Aw&output=html>  
<http://oii.org/>

The above are merely a few of the continuously updated, archive-supported and richly compiled resource links dedicated to elearning. Throughout these resources and many others, consistent aspects adhering to best practices in online course development appear.

### Purposeful Steps

In 2000, [The Institute for Higher Education Policy](#) published [Quality On the Line: Benchmarks for Success in Internet-Based Distance Education](#) (Merisotis, Phipps) that outlines a range of “quality assurances” within areas of institutional support, course development, teaching/learning, course structure, student support, faculty support and evaluation and assessment. Although produced over ten years ago, it is significant to note that there is an (albeit cursory) emphasis on instructor commitment or “presence”,

constructive and effective assignment design and, ultimately, a course structural consistency that is very helpful in realizing online learning opportunities.

Course Standards checklists have been developed since these benchmarks appeared. E-Campus Alberta reviews online courses against a set of [Essential Quality Standards](#) that include: measurements of a course's clearly stated goals and objectives, its consistency of format, and academic rigour and the courses use of a broad range of instructional strategies that engage learners of different interests, abilities and learning styles. These course standards measure the accessibility of material, the relationship of content to learning objectives, the course navigation and presentation of information and support available to students, and policies and procedures outlining institutional and administrative responsibility.

There has been a steady process of growth in the area of online course development principles into what has become, in fact, an evolving "science" of effective course design. Florida Gulf Coast University offers a coterie of [Principles of Online Design](#) that outline 1) initial instructional and audience analysis, 2) interaction among learners, 3) information presentation, 4) instructional management and 5) technical services and support of technology use. Essentially, these principles encompass a structured understanding of what constitutes course objectives and expectations, the ease of course navigation, the opportunities for student-to-student interaction, timeliness of instructor response, enhancing learning through the use of technology and opportunities for effective assessment.

"From all the media comparison research, we have learned that it's not the delivery medium, but rather the instructional methods that cause learning. (Clark, Mayer, 2008). This connects back to the good instructor "drawing in the dirt with a stick". Yet, we have come a long way from tracing good ideas for learning in the sand. Technology offers Elearning educators opportunities ("[tools](#)") and [emerging technologies](#)) that seem to appear daily if not hourly. While the "science" surrounding online learning develops and the delivery mediums of elearning continue to grow apace, the focus on instructional methods needs to remain foremost in focus. According to Clark and Mayer, there are four potentially valuable instructional methods unique to elearning: practice with automated feedback, collaboration with self-study, the use of simulations and games and the opportunity to integrate dynamic adjustments to instruction. Through engaging visual and auditory online presentations the instructor can build in automated testing with hints and remedial activities that can expand learner's skills and understandings. Through wikis, blogs, chat and discussion forums, students can explore collaborative learning opportunities and potentially achieve better learning results. Computer-supported collaborative learning ([CSCL](#)) involves learners working toward a common purpose by communicating, interacting and negotiating toward increased understanding. Simulations and games are seen as effective tools in replicating experiences that have motivational appeal and can produce effective learning experiences. Clark and Mayer's final "unique" e-learning instructional method involves "tailored instruction" or the "ongoing dynamic adjustment to the instructional path." An example is cited of a student making errors in a practice problem of intermediate complexity and can then be met with some "adaptive instruction" that presents an easier problem or a similar one with increased instructional help.

### *Differentiated Instruction*

The concept of "adaptive instruction" points to an exciting challenge in online education. To adapt or, rather, differentiate instruction is to attempt to meet the needs of a diverse range of learners. Adult learners bring to the learning table a broad range of differing skills and best practices in elearning certainly address this concern. "To differentiate instruction is to recognize students' varying background knowledge, readiness, language, preferences in learning and interests; and to react responsively." (Hall, Strangman, Meyer, 2009) Several key elements of curriculum that can be differentiated to meet varying

student needs are: Content, Process and Product. (Tomlinson, 2001). Instructors, although focusing on content aligned to objectives and learning goals, adjust the degree of complexity to suit diverse learners. Through instructional “process”, organization and delivery strategies are carefully selected. And, as students are viewed within this instructional model as active and responsible learners, there exists opportunities for students to express their knowledge and understanding in different ways. In this model, varied text and resource materials can be accessed and curriculum can be “compacted” for high-achieving students. Complex instruction, concept attainment and independent study all within varying degrees of sophistication and in varying time durations can be employed. Ultimately, a range of student “products” can be considered and negotiated in keeping with a clear understanding of course outcomes and objectives. (Hall, Strangman, Meyer).

The challenge that clearly presents itself in online differentiated instruction is the need for ongoing student assessment. In order to provide purposeful differentiated online content, processes and products, the instructor must approach this challenge and opportunity proactively. (Bhattacharya and Hartnett) point out -- after having conducted what seemed initially difficult problem-based learning opportunities for distance students – that, at course end, some significant new learning experiences had occurred. They were able to choose their own problems to work on and their own time schedules (through negotiation). Students ultimately found an intense engagement in the problems being considered that they even forgot they were doing an assignment. Inherent in this process is a subtle yet noticeable “learning design”.

### Universal Design and “High-Yield” Instruction

Universal Design embraces the idea that instruction must be customized and flexible within its teaching methods. Adult learners bring a large diversity of styles and experiences to their learning and online instructional design that appreciates and understands that “diversity is the norm” can experience a success that extends far beyond online courses that are either mirror-images of face-to-face courses (i.e. primarily text-based versions of correspondence courses) or dazzling digital offerings that confuse and distract in a blizzard of “media abuse” (Clark, Mayer). Here, technology “overloads” the processing capabilities of learners. In the former, students often plough through written material and are left to achieve outcomes that are in many ways rigid and impersonal. In the latter, students can struggle to internalize unclear objectives and hastily considered instructional purposes that are “hidden” within poor instructional planning.

There are three “primary principles” outlined within the guidelines for the Universal Design for Learning (UDL). These principles are designed to 1) provide multiple means of representation 2) provide multiple means of action and expression and 3) provide multiple means of engagement. These are important concepts that complement the “science” of elearning instructional design. Clark and Mayer outline three types of e-learning: receptive learning (show-and-tell learning designed to engage the learner’s skills to inform), directive learning (tell-and-do learning that is designed engage learner’s procedural skills) and discovery learning (problem solving learning that is designed to engage the learner’s analytical skills).

These instructional design and elearning “concepts”, “principles” and “types” live in the background of course development best practices. They are in many ways essential understandings for the creation of effective and truly purposeful online learning. Well-designed elearning can teach students how to transform information into useable knowledge. It can engage a student’s ability to plan, strategize and set goals. And it can also inspire students to regulate their attention and sustain their efforts (UDL). Alongside these course development “understandings”, some practical strategies also fall under the umbrella of course design best practices.

Through an analysis of over 100 independent studies, nine high-yield instructional strategies that have been determined to have a significant affect “in all subject areas” on student achievement (Marzano, Pickering, Pollock, 2001). These strategies are well worth keeping in mind when designing online learning opportunities. Students benefit from challenges that include 1) identifying similarities and differences. Here, adult students can benefit from creating analogies and making cause and effect linkages which can then be organized in graphic representations. 2) Summarizing and note-taking helps students at all learning skill levels manage information through deletion, substitution and re-writing. The quality of instructional presence can be enhanced through 3) reinforcing effort and providing recognition as instructors not just hold high expectations but also encourage and honour efforts (e.g. posted student exemplars). 4) Practice that draws upon “deliberate” repetition (Ericsson, 2006) is particularly effective in elearning instruction as it affords digitally-delivered question-answer opportunities that encourage learners to apply new knowledge, for example. Visual tools such as problem-solution organizers and concept maps allow for online students to explore and create 5) non-linguistic representations. Online adult learners draw significant learning benefits from 6) cooperative learning opportunities. Group engagement has a positive impact on student motivation as it is tied closely to the learner’s experience as one of knowledge construction (Salmon). 7) Setting objectives and providing feedback is essential in the articulation of learning goals and, certainly, timely and individualized instructor response is a strong, if not the primary positive determinant in online adult student completion/retention rates. In keeping with the previously outlined learning opportunities available through problem-based learning, the 8) generating and testing of hypotheses is an instructional strategy that engages students in the excitement of open-ended learning. To generate, explain, test and defend ideas through inductive and deductive reasoning is a constructivist practice that encourages investigation and exploration. Effective online learning is enhanced through the use of 9) questions, cues and advance organizers. This instructional “presence” best practice, coupled with the integration of graphic organizers ([an example](#)), can have a beneficial effect upon student motivation through increased opportunities for inferencing, predicting and drawing conclusions.

### Conclusions

Tom Koch in *The Message is the Medium: Online All the Time for Everyone (1996)*, offers two dissenting views of the emerging technologies that “have been the subject of more hyperbole and hype than a circus sideshow.” He cites John Perry Barlow, a founder of the [Electronic Frontier Foundation](#), who comments on the evolving online electronic tools as instrumental in placing mankind “in the middle of the most transforming technological event since the capture of fire.” He then offers a viewpoint from [Neil Postman](#), media theorist and cultural critic, who suggests that through new technologies “we have transformed information into garbage.” Rather than a middle ground existing between two divergent perspectives, the “science” of online learning is building a profound sense of what is possible in this valuable learning environment.

Issues of course design and practical [instructional strategies](#) that are based on sound, clearly understood learning objectives need to be continually quantified, reviewed and assessed. Student feelings of isolation and confusion need to be closely monitored and acted upon. Course development that embraces concepts of purposefulness at an individual student level is a valuable precept to nurture and improve upon. The creation and repurposing of online courses that guarantee student-centred learning opportunities require a supportive course development environment in which all stakeholders are involved in ongoing negotiation and agreement.

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National Center of Universal Design for Learning

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## D. Administration

***“For readers who are still skeptical on the possibilities of having collaborative actions in Canada in education – a “culturally preserved” and sensible domain – the European Union (EU) provides another striking example : an integrated e-learning approach was defined, developed and adopted in the framework of 27 independent counties with highly diversified cultural and educational specificities.”***

### Collaborative Edge

The above comes from *International e-learning strategies: Key findings relevant to the Canadian context*, submitted to the Canadian Council on Learning (2006). This study makes the argument that strong collaborative initiatives in the area of elearning are being undertaken in a number of countries that are embracing the idea that sharing works. The Canadian Council on Learning report further suggests that from this viewpoint the “cooperation realized between [EU] Member States on policy issues (lifelong learning, evaluation of the quality of school and university education, benchmarking education and training, mobility of students, trainers, teachers, etc.), one must admit that Europeans do have far reaching programs and policy collaboration that go far beyond those of Canadians.” There are many opportunities for future research investigations that can delve into the area of international approaches to elearning but this brief mention of how others embrace an ongoing belief and acceptance of collaboration “undertaken in very complex and diversified governmental structures and educational structures” suggests that openness to the exchange of ideas and information is vital for the future improvement of online teaching and learning. Central to this emphasis on openness is the phrase “evaluation of quality.”

### Support and Training

Heading the list of “Top-Ten Teaching and Learning Issues” (Campbell, Oblinger, 2007) is “establishing and supporting a culture of evidence”. Educational costs to students are increasing (in some cases 35% from 5 years ago) and along with accessibility and affordability, institutional accountability is a central concern. Second on the “Top-Ten” list is “demonstrating improvement in learning” and third is “translating learning research into practice.” The ability to provide a technologically-invigorating learning environment to students who are increasingly expectant of these content-rich, interactive learning opportunities behooves educators and administrators to focus on the “evidence” these offerings afford in terms of improved learning. Given the explosion of learning and teaching research, it is abundantly clear – by even scratching the surface of what is now available in knowledge areas of online learning – that there is need for practical expressions of this research.

“Higher education is inundated with ever-changing elearning methods and strategies.” (Campbell, Oblinger). Administrators are faced with matching budget considerations and their institution’s “instructional mission” with what can and does work in terms of sound pedagogy. Just a few questions that administrators can ask themselves as they consider elearning initiatives include ones that concern

the short and long-term goals for each strategy and course application. Questions should also be posed around the particular skill characteristics and practical goals of the students availing themselves of meaningful learning and the support required for the effective delivery of a course that meets these viable needs. They can reflect upon the important issue of their faculties' understanding of content and learning strategies as well as their ability to use technology for effective learning. Administrators need also to consider how to maintain the measurable effectiveness of the initiative and ensure its continued development and enhancements.

“Lifelong learning has come of age, brought about by changes in attitudes to learning and in employment patterns, where jobs and careers are recast many times during a lifespan.”(Littlejohn, ed., 2003). Because of the continuing increase in adult distance learners who are making these increasingly popular online course choices, the need to effectively create, maintain and measure elearning requires an appreciation of some of the hurdles that apply to both learners and faculty. Jill Galusha outlines “problems and barriers” encountered by students that include course costs, sparse teacher contact, limited feedback, and frustrating experiences with support services. There is also a challenge presented to administrators by faculty unprepared and even unwilling to teach online proactively and with the real enthusiasm that can make an online course exciting and satisfying for the student. Without a range of basic course delivery skills and sound content knowledge, faculty can become overburdened. According to Galusha’s research, the selection of strong subject matter experts who are often older and are interested and excited about the learning possibilities immanent within quality online instruction are the best choices. With enthusiastic and mature instructors and committed administrative support staff who are able to adapt to and creatively explore the technological opportunities now available, the cost and development of strong online courses can be minimal.

### Sharing

“Teaching is a very personal and 'individual' activity, yet teachers benefit greatly from links with other teachers, both with colleagues in their own establishment and with colleagues in the wider teaching community.” (Kimble, Hildreth, Bourdon, 2008) Very important, in this complex process of creating and maintaining elearning opportunities for new and returning students, is to understand and encourage collaboration between individuals and institutions. It is very important that practitioners at all levels embrace a culture of sharing their knowledge, skills and new ideas. But knowledge sharing can be difficult to accomplish. Administrators who are aware of some of the challenges inherent in [knowledge management](#) can influence improved performance and innovation. Theories surrounding the concept of a [“community of practice”](#) can be of value when considering the purposes behind effective collaboration. Research in this area indicates that when practitioners view knowledge as “meant for the public good, a moral obligation and/or a community interest” (Ardichvilli, Page, Wentling, 2003) the knowledge flows easily. This demands the building a culture of trust and openness wherein information sharing is involves not just the “finding, transferring and archiving of knowledge” but making explicit expertise or “tacit knowledge” which is valuable, context-based knowledge that is difficult to capture and store. (Davenport, Prusak, 200)

### Conclusions

To meet the increasing need for new and ongoing online course offerings, faculty training and support is essential. Often, “just jumping in” does open the way for effective and developing instructional skills in what can be a very busy experience. Instructors are often fortunate in that they can avail themselves of a broad range of talented support both administrative and technical. Professional development is

essential in online learning as change in this learning environment is a constant. Developing engaging, thoughtful and effective elearning courses takes time and a great deal of thoughtful effort and commitment. Administrators, on the whole, are aware of this and to offer practical and measured support is a best practice. There is also a real demand for the sharing of knowledge, ideas and experience both inside and among educational institutions.

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#### **IV. Research Opportunities**

##### ***Discourse frames action.***

"We will build capacity in distributed learning and implement synchronous delivery starting with Academic Foundations. This brand of education delivery will help top-up enrolment in programs and—with its emphasis on technology, multitasking, and strong classroom management skills—encourage quality instruction." (BVC Business Plan, 2010-2014)

[Bow Valley College's 2010-2014 Business Plan](#) "is guided by three key goals: improve access, ensure affordability and foster quality." This will require the administrative best practice of "providing [faculty and staff] professional development to facilitate stronger engagement, enhanced productivity, and improved performance." The plan also calls for continued focus on applied research and innovation.

To restate the purpose of this review:

Beyond an attempt to isolate some of the factors that determine what constitutes effective online teaching practices, learner characteristics, course development challenges and online administrative concerns and opportunities, this review's central objective is to come to some general conclusions about the current state of adult online learning and to offer some recommendations for future areas of investigation. This review can also be viewed as a collaborative starting point in many ways and one that may well assist other practitioners involved in adult education in Alberta to look more deeply into current and future best practices. **Additionally, a number of structured practitioner interviews and student survey opportunities are planned and these will follow in the near future.**

With this in mind, the following is an **initial list** of proposed semi-structured practitioner interview questions related to Best Practices in online learning:

- 1) What pre-course screening procedures do you have in place to assess your student's ability to experience success in their chosen course(s) in terms of literacy levels, technological skills, familiarity with online environment etc.?
- 2) What do you have in place for early assessment and relocation of students to alternative programs?
- 3) What career direction/placement information do you provide specifically to your online students?
- 4) What particular challenges do you face concerning: a) timely instructor responses, b) student motivation (assignment submission delays, for example), c) assignment connection to resource material?
- 5) What software tools do you use to enhance your course delivery? What is most effective and why?
- 6) What instructional procedures do you use to monitor online ethical behavior (plagiarism, individuals other than student completing course work)?
- 7) What specific opportunities are your students given for: feedback, discussions, collaboration?
- 8) To what extent do you employ exemplars as aids for student success? What copyright issues have you faced?
- 9) Do you find Blackboard an effective platform for online course delivery? What works well? What can be improved?

- 10) What sorts of metacognitive/reflective opportunities do you provide for students?  
How are these assessed?
  - 11) How do you monitor program success?
  - 12) Do you find your course content organizationally effective? What concerns can you share?
  - 13) Do you encourage students to take responsibility for their own learning? How is this done? Assessed?
  - 14) How do you monitor program success?
  - 15) Can you reflect upon:
    - Staff challenges
    - Completion rates
    - Screening effectiveness
    - Technology abandoned (what works, does not)
    - Where has synchronous failed - reasons
    - Course Development challenges
  - 16) In terms of synchronous learning environments:
    - What opportunities are you offering and what can you share concerning perceived future possibilities?
    - Can you offer any thoughts on course adjustments needed for expanded synchronous learning opportunities?
    - If you are considering expanding your synchronous online programming, what courses would be piloted first?
    - What staffing concerns do you envision?
-

## V. Additional References of Interest (Social Networking)

Electronic Frontier Foundation <http://www.eff.org/about>

**Blending the expertise of lawyers, policy analysts, activists, and technologists, EFF explores issues defending free speech, privacy, innovation, and consumer rights.**

*newcomm collaborative: Community, Resources & Knowledge Sharing for the New World of Communications,* <http://www.newcommcollaborative.com/#>

**An online community and media project focused on leveraging social media and new communication tools.**

Society for New Communications Research

<http://snrc.org/>

**Education and think tank focused on the advanced study of new media and communications.**

Solis, Brian. Defining the Convergence of Media and Influence

<http://www.briansolis.com/>

**New media agency investigating convergence of PR, Traditional Media and Social Media**

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