*"***Testing the Educational Use of Podcast Technology and Mobile Media***"*

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PRE-AMBLE:
While much of the CONCERT research focused on exploring the development of tools that expanded and extended the existing lexicon of functions in Apple's mobile suite, *our* research sought to engender an "Out of the Box" approach whose focus was on using the relatively unadorned technoskeleton provided by the vendor (Apple). The thrust of the research aimed at creating the ground conditions (Infrastructure and Opportunity) that would facilitate rich, peer-to-peer interactions whose focus was on adopting a beta-phase technology to capture, format and structure the collective know-how of the average class into a powerful, socially-constructed knowledge resource that could be easily, rapidly and consensually configured to address local and temporal knowledge requirements and eventually bequeathed as an easy-to-use legacy for future users. Our focus was, ostensibly, process-oriented.

The research project dovetailed with my own informal research in RISK-based learning (Rapid Integration of Skills & Knowledge) under the nomiker "The Legacy of Learning." Initiated in 2005, it focused on re-defining traditional classroom roles in order to transition from passive centrist hierarchal models of instruction to ones that engendered deep syntheses, high levels of investment, commitment and participation—a distributed, peer-centric form of knowledge generation and sharing—that were consistent modalities of web-mediated learning.

The change in emphasis was necessitated by a confluence of technological and cultural shifts that had served to render traditional modes of teaching innefectual and irrelevant. Persistent and pervasive waves of innovation and subsequent obsolescence continue to generate forms of social turbulence that traditional pedagogy is ill-equiped to address.

RISK-based forms of learning leverage the latent collective energy and intelligence of an entire cohort in order efficaciously deal with these sea changes. RISK-based learning seeks to collapse lags in learning due to the Chain of Implimentation. Rather than have technological innovations released at commercial maturity only to be vetted by a chain of administrators, IT staff and faculty, the RISK approach seeks to engender a broad, integral spectrum of roles in the student that ranges from IT through Researcher, Teacher, Writer, Designer through to student, to name a few.
For more background information refer to:
http://www.baandd.ca/groups/digitalapplications/wiki/d86bd/THE_BACK_STORY.html

The introduction of Apple's Mobile Learning infrastructure into this setting at an "early adopter" or Beta phase was consonant with the RISK methodology and provided an opportunity to see how a student body, if facilitated, could cope with these new roles. This provided myself and the *School of Design* with valuable anecdotal data on the

process of dialoguing with a developer of a Beta-level product in ways that were mutually benefical.

While research is a cornerstone of the University model, Community Colleges have only recently been invited to the table where research is concerned and this sort of process-oriented intelligence is critical to further development of research capacity at the college level. Research capacity is not intrinsic to the college system and, while there are ample written resources to guide the development, management and methods of research, there is no substitute for hands-on experience—a hallmark of the Community College approach.

PROCESS:
On approval, We formed a team of 4 students (1 third year, 2 second year, 1 first year), myself (faculty), 1 Technologist and a Production Manager from our Research Office. We adhered to the D.E.C.I.D.E. framework of Preece, et al.
For more details see:
http://www.baandd.ca/groups/mycelium/wiki/6988d/Research_Background.html
Technical assistance was provided by Apple as they shepherded our Technologist through the process of installing and configuring the basic Apple Server Infrastructure.

The research team commenced to engage with and meticulously document its experiences and committed to use the technology itself to support this process—in a sense—being self-referential.

RESULTS:
Mycelium Research WIKI
A broad range of technical tests were run in order to posit ideal settings and approaches. Our main focus was on gaining sufficient familiarity and facility with the technology to create a procedural guide that could be referenced by students to whom the technology would be made available—this took the form of a HOW TO section in our evolving RESEARCH WIKI that was comprised of written material supported by LINKS, PODCASTS and SCREENGRABS.

All testing data, commentary, queries, etc. were agglomorated and consensually managed and structured under the umbrella of the Mycelium Research WIKI. This became the formal instrument for intelligence gathering and would later serve as a prototype that would inform the genesis of a live, student-driven learning resource that came to be known as the *Knowledge Garden*. The dynamics of interaction and patterns of growth that were manifest in the creation of the research WIKI also served to inform our development of the binding metaphor of *Knowledge Cultivation* that helped us make sense of and give form to what was, intitially, a voluminous and loosely-connected tangle of data.

User Experience Matrix:
It became apparent that the procedural guidelines were more nuanced than first anticipated and that the characteristics of the information provided needed to be contextually grounded with respect to both the type of user and their phase of use. To address this challenge a 4x4 interactive PDF *User Experince Matrix* gave *Technologists, Researchers, Faculty* and *Students* access to over 150 pages of information relating to the *Setup, Production, Access, & Distribution* phases of use that had been identified.
To access a downloadable version of the User Experience Matrix go to:
http://www.baandd.ca/groups/mycelium/wiki/9f05f/Podcast_User_Experience_Matrix.html

Legacy of Learning Knowledge Garden:
In January, 2009 a custom workflow geared to creation of low resolution mobile content within a student-run BLOG/WIKI environment was created.
Home Page:
http://www.baandd.ca/groups/digitalapplications/wiki/c30a8/HOW_TO_USE_THIS_WIKI.html

The Almanac:
A third party consultant was hired to assist our technologist with this process and I manually generated accounts for approximately 150 first year students. The student researchers assisted in the knowledge transfer by creating a series of HOW-TO podcasts that oriented students to this new technology and suggested how it might be used in creating a learning resource. These HOW-TO materials constituted a best practices guide and were dubbed *The Almanac* (A Knowledge Cultivation Guide). This guide would continue to be added to and revised by each new student group to take stewardship of the resource.
For more details see:
http://www.baandd.ca/groups/digitalapplications/wiki/c30a8/HOW_TO_USE_THIS_WIKI.html

We supported the User Help materials with live, in-class demonstrations. Students were asked to review existing offerings within iTunes U and were asked to critique form and content and to use their findings to guide their own knowledge productions. Students were also required consider Knowledge Architecture and Searchability as well as typography and design when structuring their resources. Beyond these stipulations, the students were free to structure things in a way that they saw as meaningful—speaking in their own vernacular, as it were. This had the effect of promoting a diverse spectrum of approaches—some of which were used as exemplars for subsequent student groups and fostered a collegial best practices approach.

Student Plots:
While the entire resource was under the purview of the student cohort students were organized into groups of four and assigned various software problems for which they had to research, write, demonstrate, podcast and publish their findings. Each group organized their time and resources as they saw fit and were given a group Plot with which to

organize that information according to their own needs. More public areas were open to scrutiny and change by the collective.

For more details see:
http://www.baandd.ca/groups/digitalapplications/wiki/9b9cf/Almost_Famous.html

To see more:
http://www.baandd.ca/groups/digitalapplications/wiki/60329/STUDENT_RESEARCH_AREA.html

Learning Objects:
While this technology was empowering for students and engendered the sort of collaborative framework and dynamics that are commonly held as the norm for the internet generation, the sheer number of learning artefacts that were generated in a 3 month time period were staggering. While many were experimental and, naturally, rough around the edges, many were highly polished—a result of students leveraging skillsets in AV narrative and editing that were, until then, latent in the group. Most professors, working alone, could not hope to match the number and quality of materials that were collectively generated. This made a strong case for changing the professor's role to that of a Producer/Director.

See:
http://www.baandd.ca/groups/digitalapplications/weblog/bc091/

From Obstacle to Opportunity:
The *City of Toronto*, and *George Brown College* in particular are, arguably, quintessential emblems of global, urban diversity. Traditionally, the diverse cultural, educational and linguistic foundations of our citizenry has been perceived as an obstacle to be overcome. In an attempt to normalize the basic competencies of its citizens, government agencies have aggressively competed for scant resources. Through the process of empowerment that is germaine to the Knowledge Garden project, this scenario turned itself on its head with startling and inspiring results.

The "diversity" so central to the "creative economy" alluded to by *Richard Florida* has moved from a mere theoretical tome to a powerful reality at George Brown.
My spring semester students took stewardship of the Knowledge Garden resource from their winter-semester peers and were challenged to make it uniquely their own. After struggling with attempting to mimic the success of their predecessors, many were frustrated by a language barrier that rendered their ideas in a substandard form. The penny finally dropped when I suggested that a student (formerly a journalist from Columbia) work in her mother tongue. The results were astounding! Before long students for whom English was a second language were genuinely enthralled with the prospect of creating podcasts in their own language. In that instance, language went from being an obstacle to an opportunity. Within days we had produced our very first learning modules in Spanish and Mandarin Chinese—Gifts of learning from students to their peers who would follow in their footsteps. Since then others have shown an interest to produce work in Urdu, Persian, Cantonese—a trend I hope will continue into the future.
For Spanish Podcast See:

http://www.baandd.ca/groups/digitalapplications/weblog/673d4/Podcast_on_Channels_in_Photoshop_CS3_(Spanish)_.html

For Mandarin Chineses Podcast See:
http://www.baandd.ca/groups/digitalapplications/weblog/5394f/Adobe_Illustrator_Blend_Tool_.html

Clearly a new horizon has dawned where students will play a critical, active role in the process of education where they will partner their talents with the abilities of both peers and professors to create enriched learning that bears witness to itself in the form of fresh, relevant and highly nuanced learning materials and structures that can be constantly re-configured and revivified to suit the ever emerging temperments of tomorrows students.

The Whimsical:
Play is an important and vivifying aspect of learning and the students' level of engagement with the infrastructure was no exception. When urged to explore the podcast medium I suggested the genre of music video might be one that would hold their interest. Students went on to create an entirely new genre of podcast karaoke dubbed WIKI-OKE. This enabled students to learn about sound, light, narrative and editing in a fun and very memorable way.
See:
http://www.baandd.ca/groups/digitalapplications/wiki/e3973/WIKI-OKE.html

Serving the Community:
Dominion Modern Collection—Digital Museum
Working in a RISK-based paradigm allows a great deal of flexibility in adapting learning to emergent scenarios. The School of Design has been home to a curated exhibit of unique artefacts of Canadian Design & Manufacturing. I was able to re-configure the curriculum to pay hommage to this rich legacy. After an introduction to the exhibit by John Martins-Manteiga, our Design Historian in residence and the Director of the museum, my students chose an item of interest from the exhibit that they then photographed for reference and used as a subject for rendering. It was a truly unique way to explore Canadian Design history while acquiring skills in 2-dimensional product rendering. The students then created their own Digital Archive of their illustrations that are now available online in the Knowledge Garden. This helps the collection to reach a global audience and has paved the way for creating a series of commemorative coasters that can be used as a fundraiser and a potential income stream/exposure opportunity for participating students.
This demonstrates how this applied form of learning can help the student grow knowledge, gain exposure/income while serving a niche in the community.
See:
http://www.baandd.ca/groups/digitalapplications/wiki/10781/Digital_Renderings_of_the_Collection.html

Hospice Association of Ontario
There are plans to leverage the experience gained from our research to assist Non-Profit & Governmental agencies to harness the latent knowledge of their workforce and the constituency they serve. *The Hospice Association of Ontario* is one Not-for-Profit that is currently pursuing funding for procurement of infrastructure and technical/design know-how. The potential for empowering service-providers and their charges to design and maintain their own resources is exciting.

Your Web Department CMS
This local developer of Content Management Software has expressed a keen interest in leveraging our capacity for creating user-driven know-how for generating support materials for their Beta version of their CMS software.

Exposure:
Since January, 2009 seven different presentations were given to Educators, IT professionals and Administrators at conferences in Waterloo, Toronto and Montréal. These presentations recognized the importance of the CONCERT/APPLE initiative in supporting applied research in Just-In-Time-Learning.

Preliminary presentations to CONCERT partners, December 16th, 2008 (*Interactive PDF*)
http://www.baandd.ca/groups/mycelium/wiki/06d77/Preliminary_Presentation_(January_09).html

The Many Dimensions of Student Engagement, McGraw-Hill, Wilfred Laurier University, Feb. 18th, 2009 (*Downloadable Powerpoint with speaker notes*)
http://www.baandd.ca/groups/mycelium/wiki/2fefa/Research.html

This Is IT, George Brown College, Toronto, May 21st, 2009 (*Podcast/Powerpoint)*
http://www.baandd.ca/groups/digitalapplications/wiki/ecde5/This_is_IT_Presentations_2009.html

CANHEIT, Université de Montréal, June 8th, 2009
http://www.accordent.umontreal.ca/20090609-150939-5/f.htm

INNOVATION ROUNDS, Internal presentation to GBC Research Community, June 8th, 2009 (*Podcasts and downloadable, Interactive PDF*)
http://www.baandd.ca/groups/mycelium/wiki/87fb2/Innovation_Rounds_Presentation_June_8__2009.html

Foundation Art & Design Educators presentation, June 8th, 2009 (*Podcasts and downloadable, Interactive PDF*)
http://www.baandd.ca/groups/mycelium/wiki/efca3/GTA_Presentation_June_8__2009.html

Concluding presentations to CONCERT partners, June 30th, 2009 (*Downloadable Powerpoint with speaker notes*)
http://www.baandd.ca/groups/mycelium/wiki/c3b43/GBC.html

Peer Reviews:
Richard Ogle, Best Selling Author of *Smart World* (Harvard School of Business) had this to say about our Knowledge Garden methodology and assets:

"Dear Jim,

Thanks so much for sending along details of your fascinating RISK project. I apologize most sincerely for the delay in getting back to you--your e-mail was archived by mistake. I have just begun looking at some of the pages on your website, and am very intrigued by and supportive of your student/peer collaborative approach to learning. As a footnote, my own 11-yr. old daughter Lizzie is now in a wonderful progressive school, Riley in Rockland, Maine, which (in a non-technological way) uses just this approach with children from kindergarten through 8th grade. It's marvelous to know that you and your students are able to make such good use of modern interactive technology to transform learning in this way.

As I said, I've only just started to dip into your website and very much look forward to learning more.

Thanks for your kind remarks on my book and for giving your students a copy. I'm now hard at work on a new book that will focus on reconstructing the concept of reason/rationality within the framework of thinking based on networked idea-spaces. As soon as I have a moment, I'll check into the Lewis-Williams books you mention; they sound very relevant.

Please do stay in touch, and again my apologies for not responding before.

*Richard Ogle***"**

CONCLUSION:
A central tenet of RISK-based learning involves collapsing the spectrum of roles that traditionally separate the student from the developer in order to accommodate Just In Time Learning. The student progressively assumes the roles of Researcher, Writer, Presenter, Teacher, Technician and, eventually, Developer.

The CONCERT initiative allowed us to bridge the Gap between student and developer in order to engage both parties in mutually beneficial activities. It is my hope that with continued support, we will be able to provide valuable beta testing capacity for the development community—a service supported by first-rate user know-how materials and infrastructure that would serve not only the students involved but the developers' broader customer base. The diverse student population at George Brown College holds tremendous potential for speaking to a global audience. The natural conclusion of this progression, of course, would be the co-development of products and services where new, inclusive revenue sharing agreements could be explored.

The challenges are significant and the customizable, service-driven temperment of today's society demands that both our college and our industry partners work to forge more nuanced and flexible binding agreements that recognize these local and specific nuances. Legal instruments that seek to covenant global customers with a "one-size-fits-all" approach and Institutional legal departments that adopt a similar attitude tend to stifle the type of cellular innovation that is so crucial. We experienced a minor setback in this regard and were unable to broker a workable agreement that would allow us to test iTunes U as a delivery platform. However, this was in itself a valuable part of the learning curve for all concerned and it cannot detract from the fact that The School of Design and George Brown College now have the infrastructure and the know-how to initiate additional student-generated, student-run learning resources.

While mobility was the central motif of the project it was an expectation pre-configured in the minds of a segment of our society who assume mobility as a ground condition of their culture—it is not an "add on" but a minimum requirement of being connected. We now have the capacity and the know-how to deliver on student expectations in the iPod vernacular that they are so intimately connected to.

The members of CONCERT team that I had the pleasure of collaborating with were consummate professionals who were inspiring and encouraging. We enjoyed a flexible, encouraging hands-off style from the management tier as well. While a lack of boundaries can be off-putting to some, it fit exceedingly well with our RISK-based philosophy and allowed us to pursue our inquiry in a manner that made sense to us. Our corporate partner supported and encouraged us throughout the process and always made themselves available to us at a moments notice. It is an experience that was fruitful for its ability to position our school on the cusp of learning. I would urge that more funding be made available to continue what I feel to be a strategically important think tank for the new and emerging creative economy.

Jim Kinney, *Professor, School of Design, George Brown College*