How can I use an integrated, pedagogical IT delivery model to positively impact student-perceived self-literacy and teachers' best practices?

Tim Pugh

Biography

Tim Pugh is in his second year of teaching for this school board. He arrived at his current school site with the express purpose of teaching a combination of French-as-a-Second-Language (FSL) and ARTS-based programs. He is currently fulfilling the last requirement for his Master of Education degree with a focus on curriculum leadership. In his sixteen-year career as an educator, he has chosen to work for four different school boards, both public and private. In so doing, he has had the opportunity to teach most subjects and most grades from JK – Grade 10, in both official languages. Each of these experiences has informed his practice and opened his "curricular eyes" to endless possibilities and permutations. One of the constantly mutating threads of possibility throughout this journey has been the role and use of computers within the learning experience commonly called "school".

Rationale

Within the above admission lies the recognition that I have witnessed the full gamut of computer-related development programs and initiatives. From the non-existent to the highly complex, one reflective component has been systemically overlooked to a large degree in the planning, execution, and maintenance of such endeavours: students' perceptions or Student Voice.

I am troubled to think that students, who come to school with a diversity of computer-based skills and capacities, often cannot capitalize upon nor further develop these skills due to site, hardware, software, and knowledge-based restrictions. It is my belief that these restrictions form a real impediment to the solid development of literacy skills amongst students. While disturbing, this very dichotomy has birthed in me a personal working theory that students' mastery of key literacy concepts would be more effective if a main vehicle of this process was a student-delineated, fully-integrated approach to computer-related learning at the school site. I further believe that students' subsequent understanding and ownership of personal computer literacy skill development is a key ingredient in the recipe for the making of a truly "literate student". Indeed, I have become so convinced of this reality that computer-related issues have been central to my personal framework of research and study throughout my Master of Education program.

Definitions – Terms and Keywords

For the purposes of this report, the following words and definitions are here outlined :

"Literate learner" is a well-rounded learner who can successfully adapt to and effectively communicate within various learning environments.

"Information Technology" (IT)) represents the use of computers, software programs, and related technologies for the purposes of learning within a curricular setting.

"Communication literacy" is the concept that true personal literacy lies in the ability to accommodate and interpret new information within an ever-changing, intentional framework of literate purpose and pursuit. It is not just pen-and paper-based, nor is it only restricted to mathematical, reading and writing skills. It has everything to do with the ACT of communicating one's accumulated knowledge and understanding to others. This process finds its parameters within the practice of personal and corporate dialogue. This, in turn, gives rise to the making of meaning for all participants. As learners make meaning of this interaction, new methods of personal adaptation and communication are birthed.

"Learner" refers to anyone, student-client or teacher, who makes a conscious effort to live in a communicative relationship with one another within the school setting.

"Student voice" is loosely defined to be students' perceptions, as expressed from their own mouths.

OSAPAC represents the Ontario Software Acquisition Program Advisory Council.

OESS represents the Ontario Education Software Service.

Setting

My current school location is that of Greenbrier Public School. It is located in a middle to middle-upper-class suburb of Brantford, Ontario. A composite school of JK – Grade 8 with a stable population of 270, Greenbrier Public School boasts one homeroom class per grade, with the exception of two split-grade classes: 2/3 and 4/5, a Junior / Intermediate class of Mild Intellectual Disabilities (M.I.D.), and, a self-contained Autistic class. Prior to the Fall of 2004, Greenbrier's learning community was in possession of over thirty computers, the most up-to-date of which were Dell GX-100 machines. A great number of these were in a lab environment while others were designated to individual classrooms. In the Spring of 2004, Greenbrier was chosen for a network upgrade and computer infusion. Presently, the result of this infusion is a dedicated central lab of 30 Dell GX-270 workstations operating on a Windows 2000 network server. Seven of the previous GX-100 machines have been distributed to various classrooms as additional teacher / student network access points, although they are somewhat slower in processing speed. This two-prong approach has provided increased, more equitable, and more meaningful access to computer-related curricular opportunities for both the general student population and all teaching staff.

Central Question

How can I use an integrated, pedagogical IT delivery model to positively impact student-perceived self-literacy and teachers' best practices?

Reality Bytes

Rewind to early-April, 2004. The staff had just learned of the coming network upgrade and computer

infusion. Like all things, there are positives and negatives associated with this information. New computers, upgraded network access, the disassembly of the previous problematic student interface, and the promise of faster processing speed made numerous staff begin to salivate in a curricular sort of way. On the flip side, the spectre of more and sudden change, the perception of increased pressure external to "core curriculum", and the recognition of our guinea-pig-like status in this area ushered many staff closer toward warm and fuzzy thoughts of professional stasis. For my part, I could hardly contain my excitement. I saw a perfect opportunity to give feet to my personal working theory in a relevant and authentic fashion.

Perception is not Reality

Prior to this announcement, I had been in conversation with my school administrator, Ms. E. Whiton, Mr. B. Valoppi, Program Coordinator – Literacy & Numeracy, and Ms. J. Delong, Superintendent of Education, about IT-related research opportunities within the school setting as it related to my ongoing Master of Education studies. Thus, as part of this personal research, I had already accomplished the following throughout late 2003 and early 2004:

- assessed and classified current software titles and media available within school-based computer site – those available which work and those whose links are broken / nonfunctional due to board's user-interface School Vista (LIST A)
- catalogued media and software physically at school site but not loaded onto network / computers (LIST B)
- produced Gap-Analysis spreadsheet of Site-available-wanted vs. OSAPAC / OESS available software titles (LIST C) [** based on LISTS A & B]
- cross-referenced LIST C with the OSAPAC list of available programs which are licensable within the scope of GEDSB (LIST D)

The next two months saw a flurry of pointed discussions around what we wanted in terms of software and what we had on site. I was both dismayed and invigorated by the realization that the distance between where we were at that point in time and where we should have been was much broader than I first anticipated. Around the same time, the Board's ITS Department directed an electronic Program Use Survey to the system. Its purported goal was to specifically categorize software into useable and non-useable titles according to the frequency of use in the curriculum. At the time, the majority of our staff took part in this survey with the knowledge that our answers could have a real impact on our computer and curriculum options of the next year. Around the same time, I arranged for our teachers to obtain demo CD's for Kidspiration & Inspiration. After watching several demonstrations, my Principal decided to ask staff for input regarding the purchase of these titles for our new network. The result was the purchase of 15 network titles of each program.

Perception Becomes Realistic

I then contacted Ms. Dene Mawson, Supervisor of IT for Learners , to ask if there could be a meeting to talk over software titles available through the Ontario Educational Software Service (OESS) for the new infusion's network image. She agreed and sent a softcopy of the proposed Elementary Base Image to me for perusal. I then shared with her some highlights of our Site Software Gap Analysis

(LIST C). She asked for additional input. In keeping with her request, I established a prioritized list (LIST D) of new programming needs and wants for Greenbrier based on curricular / integrated IT applications at various grade levels. Then, I checked this prioritized list against our Gap Analysis and then cross-referenced with the Elementary Base Image. This resulted in a working list of software titles which Dene and I poured over in late June, 2004. We then looked at the viability of each of the requested programs in accordance with the proposed Base Elementary Image from three respects:

1.   Did each of the programs fit into the technical specifications of the new
2.   network ?
3.   Could each of the requested programs be supported on a technical basis by Board ITS staff?
4.   Could each of the requested programs be easily manipulated by ITS support staff in regard to the ghosting of the new elementary infusion image?

If the programs did not fulfill these criteria, then they were either set aside temporarily; or, they were deleted entirely from the active working list. This prioritized working list of cross-referenced ITS and curriculum-based software was then used to inform the final network infusion of Greenbrier. Barring any further unknown technical form or function difficulties, there was an agreement in principle that this final reworking of software titles would be integrated into the final elementary base image for the school to the best of everyone's abilities. As we reached a resolution in terms of base infusion image, Dene made a statement that intrigued me:

> "You need to realize that we (ITS) look at this process from a purely technical point of view. Basically, we compare hardware specifications against software specifications to determine if we can get the program to run. As non-teaching staff, it is not our role to recommend program usage in relation to curriculum. Teacher consultants are responsible for the curriculum side. We can put most any program onto this new network but we do not pretend to know which one is more valuable than the other. This (discussion) has been productive."
> (Dene Mawson - June, 2004 - Journal)

Perception is Reality

The summer came and went. The progress of the ITS infusion team was steady and thorough. By the start-up of school, we were in possession of the new, upgraded computers (DELL GX-270: Operating system WIN XP). September and October were largely spent in a review of all programs offered within the new network environment to verify function, content, and curricular implications. From this process, I produced a Scope and Sequence document, organizing the new network offerings into divisional, grade, subject-strand specific clusters. I first met with the primary teachers one-by-one. We focused on the software that would enhance their efforts at early literacy practice. The junior meetings took on differing slants: some wanted science-based program possibilities while others wanted to enhance their language offerings. In November, just before the end of first term, I also ran introductory mini-workshops on Kidspiration & Inspiration – staff seemed excited with the literacy possibilities that these two programs afforded.

A Story of Ruin

By the beginning of December, 2004, I had already introduced the idea of Action Research to my Grade 7 & 8 students. The anticipation was high amongst the students and a large number have brought back signed permission forms. In consultation with the homeroom teachers of these two grades, I had set up two Communication Literacy-based IT scenarios for the purposes of my research. The less complex of the two was that of the eighth grade. In keeping with the activities of the homeroom class, I set about to conduct a three-week, introductory math skills module in the lab using Math Trek 7,8,9 as the primary IT application. The week before start-up, I registered the class as a user group within the software, repeatedly logged in as individual students and created mock evaluation files through the on-line student journal tool. Everything worked well except for the print function on the student journals – I could access the mock files on screen but I could not generate hard copies. I notified our IT technician who immediately came in to rectify the situation. He was successful and I proceeded to show the homeroom teacher how to access the student records, using the mock files that I had created during my testing. I then brought in the students and did a brief introductory overview of the program. The next cyclical period, I met the students in the lab. They had already been instructed by their homeroom teacher regarding the curricular strands to be accessed. The students logged onto the network and began to register as individual students within the software. In disbelief, I witnessed every student, with the exception of one, being rerouted out of the program and back to the network log-in screen. We stopped everything and I took stock. The only student who successfully initiated the program was a boy who had logged into Math Trek ahead of everyone else. As we all crowded around his machine, we could see that he had access to everything he needed. I then took a different approach. Instead of everyone logging in simultaneously, the students logged in by computer bank configuration (@ six computers per group). None were successful in registering for the program. I then logged in as a teacher and I was able to manipulate the program. We then powered down three of the machines and rebooted them. The corresponding students then tried again to log in and register – all to no avail. Twenty-three pairs of eyes locked onto mine. Like any well-intentioned teacher, I apologized and went into auto-mode, explaining that which had already been done behind the scenes to allow them to get to this point in time. As I continued, I posed some questions and enlisted their opinions as to what had gone wrong. Had they gotten any strange dialogue boxes before being shut out of the program? Had anyone's computer just frozen? Had they noticed any unusual flash screens or messages before initiating the software? Neither reactions nor answers were offered - just twenty-three pairs of eyes stared at me. They were wholly unimpressed with my attempt to placate and problem-solve the current dilemma.

There are times in one's life when everything blurs except for the present reality in which one finds oneself. This was one such time for me.

My momentary blur gave way to the voices – whispering at first and then louder and more strident. It was a number of these students finally speaking, commenting and passing judgment. As I listened, I heard them telling me what I dreaded to hear:

> "It's just like always…nothing ever worked before either…what a waste of time!" (AC, December 15, 2004 - Journal)

"It's okay, Mr. Pugh, maybe it will work next time — we're sort of used to this. Don't worry about it!" (NT, December 15, 2004 - Journal)

My attempt at the sublime had just become a journey into the ridiculous. That week, I reviewed my prep notes and procedures; and, I reached the same conclusion as I had before: This attempt should have been successful. The next morning, I contacted our technician again. He came in and met with me at lunch. We walked through the steps that I had taken. We revisited my intent for the program. We recreated the conditions of the previous failure and it happened again – we could not log any student in other than the first one registered. We discussed a number of possible reasons for the failure: (1) some of the parameters had changed in conjunction with the process of student registration; (2) some of the permissions had been altered when the rights of the student journal tool had been readjusted; (3) this program has an incompatible / corrupted file that would not function on our new network. He left with no promise of a remedy. As I watched him go, I found myself wishing that I did not have to be accountable for this unwieldy problem. Reality, however, dictates that teachers do not often have that luxury. I knew full well that, at the other end of the present nastiness, there hung the collective aspirations and educational synergy of students who deserved better than I could provide.

Christmas holidays came and went. The technician had visited two more times since the first trouble; we had communicated via email; and, neither of us had any resolution. At our Action Research meeting on January 10, 2005, I shared my frustration with my colleagues. At that meeting, Dr. Jackie Delong expressed her dismay at what had transpired. She made it clear to me that this kind of problem should not be continuing. She stated that she would look into it. Much to my relief, within a week of this conversation, the log-in problem was resolved. I eventually discovered that the individual rights and permissions of students had to be rebuilt in order for the registration issue to be resolved. By this time, however, my golden opportunity had come and gone – I would be forced to reschedule it for later in the year.

If at First You Don't Succeed…

In keeping with my original plan, early-February found me preparing for the Grade 7 IT-based experience. This attempt was to be much more complex. Rather than one program, we would be using two: Corel Presentations 10 & Inspirations 7.5. After consulting with the homeroom teacher, we decided to frame this IT project within the curricular area of History - early Canada. Instead of a three-week timeline, this attempt would necessitate four weeks of preparation and two weeks for the actual presentations. The teacher and I proposed a list of characters and events from which the students could choose their topics. We distributed this list and I then began to initiate timetable swaps amongst some of the teachers whose classes I instruct on a rotary basis. I managed to negotiate a three-way timetable swap that would provide me with 80 extra minutes of lab time with the Grade 7 students over three cycles. I combined this with extracurricular lab access before and after school – six times at 30 minutes each. As well, the classroom teacher designated three homeroom computer periods to this project. The main intent was to see if students could use the organizational properties of the two programs to inform and frame their final project. Their resulting presentation had to be shared over the network in a fashion keeping with Communication Literacy. Throughout the presentation, both pieces of software had to be used equally, complete with a hyperlink interface

from one to the other. I created a mock presentation using both programs and I presented this to the students. Their enthusiasm was very encouraging. It was nice to hear comments like: "This is SO cool!" (BH, February 18, 2005 - Journal). Of the 25 students participating, only four had used Corel Presentations 10 in the past with any success and none had ever used Inspiration 7.5. At the end of this introductory session on February 18, 2005, their homeroom teacher made the following statement:

> "I'm so glad that you are doing this with them — I want to do this kind of thing with them — it is valuable — I understand philosophically and support this — I just can never get it to work for me." (A. Patterson, February 18, 2004 – Journal)

Student Voice – Music To My Ears

During the four weeks of project preparation, (Feb. 14 – Mar. 11, inclusive), I video-conferenced twice with each of two randomly-chosen focus groups. These groups, each with 7-10 participating students, were selected using coloured jelly beans drawn blindly out of a paper bag. At these video-conferences, which took place at recesses on Feb. 22, March 8, 9, and 10, we discussed the following questions:

1.   What do you think of our newly infused computer lab? You may compare and contrast our new lab with our former system if you wish;
2.   Think back to your years of school prior to this present one. Name or describe the last "new" IT/ computer skill that you learned. In which grade? In what context?;
3.   Name or describe one IT / computer skill that you have most recently learned during this present school year.
4.   If so, can you think of another context within which you could use this newly-acquired skill in the future?
5.   Read the following definition of a "literate student":
       "A literate student is a well-rounded, fully functional learner who can successfully adapt to and effectively communicate within various environments."
       (a) In what ways does this apply to you at this point in time?
       (b) How much importance do you place on IT / computer skills in relation to the idea of being "literate"?

Here are their responses as recorded in the video-conferences:

Q#1: "It's a lot faster than our old one...and I like the microphone." BH
       "I think there are a lot more new programs "   BJ
       "A lot better!" CR
       "Easier to use." MJW
       "Faster, better and way more programs you can use." CR
       "Last year, there were little options that we could use. " TS
"We all get to use them pretty much now. Last year, we always had to take   turns." HW
       "It's a lot easier to use – the setup of it. It's like your computer at home. It's not like last year with that bookcase." MB

"Yeah, the bookcase kept crashing and stuff!" HD

"And now, you can go into whatever you want." CR

"Pretty much, all we used last year were the writing programs. There are a lot more programs…there were a lot last year but these are more useful." HW

Q#2: "I remember Hyperstudio – Grade 6." TP

"Reader Rabbit – Grade Two." HW; CR

"Millie's MathHouse – Grade One or Two." HD

"Oh yes, a little slide show that we did in Hyperstudio." TS; …"Yes, those   profiles that we did on ourselves. " LK; CM

"Cross-country Canada – Grade Five." HW

"Probably the Millie math thing – in Grade Two." SS

"Hyperstudio…but it was in Grade Five with Ms. O…not Grade Six." LK

(Upon realization, the group agreed unanimously with this opinion.)

Q#3: "We just started learning about that new program, Inspirations, and, if you have last-minute organizing to do for a project that is due soon, it helps you organize things." AW

"(Corel Presentations)…It really helps organization." TS, SS, HW

"Corel Presentations – I think that it'll help our literacy because when you're studying, you can put down jot notes in the slide show." HD

"It really helps me organize – I can get pictures for my audience." CM

"Inspirations – it really helps. You can put things into little groups and add extra points and everything." CR

"Yeah…it really helps because it puts it all in order." HW

"It's like audio-visual. You can put audio into it and then you can look at the data and put clipart into it." HD

"The voice recording…it's fun!" CM

Q#4: (in regard to Inspiration) "like…Geography." BH

"Science." CB

"Creative writing." JN

"Like Health…We just did a project on Anorexia, Bulimia and Obesity, and it could help us to take our information and organize it." AW

"Like, when we're older, like a business presentation or pitching an idea or something." HW

Q#5
(a)   "Yes, I'm part way there…You may not be literate in reading but you might be good at math. I am partly literate because I usually stay on task and do well on my school work." MH

"Yes, sort of…when the teacher throws a curveball at me, I always try my best and never give up." HD

"I'm getting better because I am passing each grade." HW… "and because I am at provincial standard." HD

"I'm literate in sports." TP

"Is it about leadership? Can literate students take leadership in things they do?" AW (asking teacher)

" Yes, I believe that they can; but, here is the other side of that question: Can non-literate students take leadership in things that they do?" TCHR
"Yes, with a little help." MH
"Yes, if they get help." TP

(b)   "It's like…about 25% of learning – it …like…explains how to
do things and you can get details on the Internet and stuff… but…if the computer is slow and you can't get into it, it's kinda hard." MH
"In a project… it helps you to fix your mistakes…it helps you learn." JN
"Yeah, when you're typing things, the computer can give you different things and you can make it better. It helps you be a better writer." AW
"It's a learning tool." BH
"In French, I can get help from it or from the French-English dictionary"MH
"If you are far behind in your research and you couldn't find anything else, you can always turn to the Internet and it's faster." JN
"Inspirations helped me…sorting and the slide show." BH
"I'm always reading and screening information." MH
"I know how to use the computers…the programs and everything." CR
"I don't think that it makes that much difference. It's just a computer, you know. It's like a tool – I would rather go to a computer than a book." HD
"I sort of think that it does help. It teaches you how to do everything. I don't see how it couldn't help because it gives you tons of programs and stuff." CR
"This whole new technology thing, being able to discover more things and it's a major source…it's like a really useful tool." HW
              (All entries – February 22, March 8, 9, 10, 2005 – Journal)

We began the presentation phase of our project right on schedule, during the week of March 21, 2005. However, due to timetabling and lab access problems, we were unable to get all student presentations finished within the original two-week block. Instead, we wrapped up the last presentations during the week of April 5, 2005. Using an LCD projector hooked up to the existing computer network, students presented their projects. I was impressed with the resultant levels of technical prowess — many had added music, animated graphics and voice-overs to the content of their presentations. It was evident that the students had taken the introductory rudiments of the programs shown to them and moved to the next level. As the projects continued, the homeroom teacher made two comments of interest. The first was in response to the presentation of an identified slow-learner, to whom LERT support for most content subjects is offered on a regular basis. Of interest is the fact that this student needed no more support during the preceding four weeks than any other student in the class:

        "Wow…you would never know that he had a problem at all! His project was amazing – you
        know, he really is very good on computers. Ever since he took that course on Kurzweil, I have
        noticed a steady improvement. This is great!" (A. Patterson, March 24, 2005 - Journal)

At the end of the first session of presentations, she made the following comment:

"You know…I said it before…this has turned out to be an awesome experience for the kids. They have learned so much in such a short period of time. These two programs are so useful. I have learned a lot too, just by watching. I think that we should look at doing this again – maybe not in History but something else. Thank you for doing this. They would have never gotten this with me alone. I get too frustrated because things have never worked properly." (A. Patterson, March 30, 2005 - Journal)

On April 6, 2005, I video-conferenced with the last of the randomly-chosen focus groups, made up of three Grade 7 participating students. Our discussion centered on their perceptions of their own learning and that of the class throughout the course of this project. Following are their recorded comments and opinions:

"I learned that I need to save my work properly…I went to get my stuff and it was all over the lab in different drives…I lost some of it." RM
"Yeah, you have to use the H Drive because none of the other drives are big enough to save Corel and Inspiration stuff." DD
"I learned how to use voice and make a good project on the computer." JI
"I can use the slide show in Corel for different subjects." RM
"Yeah…in like Geography." DD
"You can take stuff of the Internet and make a nice little slide show for a presentation." JI
"I could use Inspiration when I make stories." DD
"Yeah…a plan for a story." RM
"Inspiration really walks you through the stuff—it was helpful." DD
"If you're explaining something, you can have a slide show with pictures and explanations." RM
"I had to start Inspirations twice because I lost my first save – luckily, I found some of it in a garbage file and I just started over." JI
"I found Corel Presentations 10 better…was easier and funner." DD
"I didn't know how to change backgrounds in Corel Presentations. I saw other people with really cool backgrounds and wanted to do it too." RM
"The fun part of the project was that you got to make your OWN slideshow – that was fun!" JI
"We should do this thing again…for certain subjects." DD
"If we had longer time in the lab, we could make more interesting stuff."RM
"Yeah, if we got Inspiration on this side of the lab…" DD
"For the first two or three days, you could have us all sit in our rows and then you could have two teachers walk down the aisles and show us how to use the new programs." JI
"I thought that the intro. on the projector was helpful. The screen was a lot bigger." DD "…You could see it better and didn't have to scrunch up."RM
"I would say that this (project) was a 8 or 9 out of 10, in terms of what our class did." RM; JI agreed. (All entries – April 6, 2005 – Journal)

On the very last day of presentations, I did a visual hand poll of the Grade 7 participants in regard to the following three questions:

Do you think that you have learned any new skills that you could use somewhere else? Do you feel successful in having presented this project in this way?

Is this something that you would like to do again?

The responses? Each time, a sea of student hands waving in the air filled my vision. There was no hesitation – it was unanimous.

I walked away from this experience feeling satisfied, albeit not completely. From all external indications, this project had been a resounding success. Yet, part of me was anxious. What was the source of my angst? The answer came later that day. It came in the form of a question, directed at me – swift, intentional and wide-eyed. It startled me into focused action:

> "Mr. Pugh, are we finished with the research stuff in the lab? The Gr. 7's did some cool stuff and I was wondering if we were going to do something like that too?" (EG, April 8, 2005 – Journal)

The Grade 8 class … they were still waiting. Somewhere along the way, their disappointment had given way to renewed anticipation. This was what I needed.

Another Brush With Ruin

I again approached the Grade 8 teacher. I proposed that he surreptitiously have two or three students attempt to simultaneously log into Math Trek during his regularly-scheduled lab periods. He did so and reported that all seemed well. Knowing this information, I decided to try another corporate attempt; although, given the widespread disrepute of the program amongst the students, the nature of this foray would be comparatively low-key in nature. Given the late time of year and the fact that most of the new math skills had already been taught in the homeroom class, I modified the intent of this two-week module to skill reinforcement rather than new skill acquisition. I arranged my rotary schedule so that I could get one extra period in the lab with this class per six-day cycle. This, along with the homeroom teacher's accommodation, resulted in four periods of lab time per cycle. I also encouraged the students to come in early and use the lab in the mornings before first bell. Students were directed to identify and work through the two skill areas that had proven most problematic for them during second term. Following the successful completion of the individual practice sections, each student was to commence testing of the skill in question. Their results were recorded automatically within the program. During the latter part of this focus, students and I conferenced around their activity scores, as recorded on the network. In turn, they decided whether they wanted to redo any skill modules or turn their attention to other areas of interest within the program. During these conferences, four students made the following noteworthy comments:

> "Geeez, I thought that I was better at that!" (algebra strand) MS
> "I need to redo that – I am not happy with that score!" MR
> "Look…I improved my overall score this time – Yeah!" NT
> "I need to come in extra and learn this better – Can I come in tomorrow morning?" AC
> (All entries – April 18 & 20, 2005 - Journal)

The Question Revisited

How can I use an integrated, pedagogical IT delivery model to positively impact student-perceived self-literacy and teachers' best practices?

In reflecting upon my journey, I have examined my original intent by focusing on three very pointed questions: (a) Had I positively impacted students' perceptions of personal literacy?; (b) Had I been able to positively impact the best practices of the involved teachers?; and, (c) Had my delivery model been integrated and pedagogical in nature?

As I reviewed all of the feedback, there is no doubt that my Grade 7 students' self-perceptions of literacy have been positively impacted. As documented in the focus groups, many of them alluded to personal growth, increased understanding and risk-taking when using the involved software. These comments and the accompanying excitement, coupled with the high degree of complexity evident in their final products, further convince me of the validity of a communication literacy-based approach. I was very interested and pleased to witness the intellectual movement of the focus groups as they discussed questions #3, #4, and #5 in particular. It is clear that this had proven to be a stimulating experience for them. On the opposing side, I am also keenly aware that discontent can rear its ugly head amongst students asked to openly compare and contrast their educational experiences and opinions within a school-based forum. Having stated this, I do believe that, when done correctly, the benefits far outweigh the dangers. In delving into question #1, I was not surprised at the focus groups' blatant dislike of the previous computer network set-up, as I had often heard such negating comments since arriving at Greenbrier. I was, however, quite shocked at the consistency of their collective responses to question #2. As I digested their responses to this specific question, I was struck by the sobering realization that this authentic feedback reflects very badly upon our school-site and, perhaps, upon our wider system of Grand Erie. Why is it that the majority of these 25 students had not learned "something new and computer-related" in the previous two years? At the time of this writing, I am still grappling with the answer. As I switched my reflective focus away from the student-learners and toward the Grade 7 homeroom teacher, I found myself easily convinced from her reaction that this process had significantly influenced her practice. In addition to her comments recorded in this report, she has since indicated that she would be willing to consider similar IT-based projects in the future.

The Grade 8 students' perceptions of personal literacy, on the other hand, were moderately impacted in comparison. It is clear that the first failure had left them somewhat deflated. Even though I am grateful to the student whose question reactivated me in April, I still do not feel that this group of learners benefited from these activities to any large extent. One fact remained: the lost momentum would never be fully recovered. Despite the lack of group dynamic, they successfully completed the math-based task with few complaints. The synergy and learning that I witnessed with the other class was non-existent in this group on the whole. While individual students expressed their opinions and views as recorded in this report, the large majority did not bother giving any feedback. The call for focus groups was either met with shoulder shrugs or went altogether unheeded, despite my best carrot-dangling techniques. I can only generalize their collective viewpoint to be: "…this was just

another assignment that needed to be finished." Regarding the corresponding teacher's best practices, this IT effort was a failure. In practical terms, the software problems categorically impeded me from affecting his practice to any large degree. Theoretically, it would have had a significant impact had I been able to proceed in a timely manner, thus supporting and extending his classroom program. As it turned out, I was only able to play catch-up at best. The following two comments, made by this colleague, frame the whole scenario:

"I can see the value in this program (Math Trek 7,8,9). Can I go ahead and choose the strands for them?" (R. Leadbetter, December 7, 2004– Journal)

"It's too bad that we couldn't get this (MathTrek 7,8,9) going earlier...Yes, I would be interested in seeing their progress. They can use this for review; but, I have already covered it in class and have marks for them."
 (R. Leadbetter, April 19, 2005 – Journal)

Even though he and I had originally agreed to partner through this IT-based math activity, the reality of Third Term - Grade 8 dictated otherwise. The time of year and the busy nature of class-based and co-curricular activities precluded us from any further meaningful interaction during the project as it finally rolled out in late April.

My third and final reflective question necessitated looking back to the beginning thoughts of this experience. The mental framing of this project is significant in and of itself. From all the information that I have gathered to date, it seems that this IT-based experience constitutes the first formalized opportunity in which GEDSB technical support personnel and elementary teaching staff have teamed up to proactively frame an authentic learning experience for a specific body of learners prior to the students' participation. Further, it is my understanding that most previous elementary network images have been determined by off-of-school-site, board employees who had little to no practical experience using the software with students. I now realize that the strategic planning undertaken by Dene Mawson and myself in relation to the OESS software, coupled with the collaborative work of both her technicians and our school-site staff are probably the most crucial elements in determining this project's success. From a purely technical viewpoint, this delivery model is very pedagogic in nature, having taken its directions and base parameters, other than functionality, from the provincial curriculum itself. This, in turn, gives credibility to the notion of this delivery model being very integrated in a practical sense as well. It is poised to intersect with all kinds of curricular learning at any grade level. This unique duality – the proactive marriage of the technical and pedagogic is the aspect which gives this model of delivering IT learning to student-clients its authentic efficaciousness.

Future Direction

Based upon this experience, I would consider the following as important considerations for future IT-based endeavours both at Greenbrier Public School and within the greater system of the Grand Erie District School Board:

1.   Each school should have an IT Integration Team. This team, consisting of interested students and staff, would be responsible for the development of IT Literacy at the specific site. These teams

would base their decisions upon both students' IT-based successes and their perceptions, as well as upon curricular needs, and teachers' best practices.

2. All schools should have regular visits from a curriculum-based IT teacher who is well-versed in both the technical and pedagogical aspects of IT learning and Communication Literacy.

3. The Inspiration 7.5 software bundle should be a high priority purchase for all newly-infused computer labs.

4. Once infused, school should maintain a central lab model of IT delivery if at all possible. Computer Lab schedules should be flexible enough to promote the exploration of, the experience with and the exhibition of newly-acquired IT skills on a consistent basis.

5. School computer labs should be treated more as tools of learning and hubs of experimentation, and less as word-processing service depots.

6. Each school should develop an integrated IT / Communication Literacy learning plan, based upon the unique characteristics and goals of the learning population. Before close-down each June, the IT Integration Team should produce a grade-by-grade summary of IT skills as covered by students throughout the year.

7. Each school should initiate a technical-pedagogical dialogue with the ITS department.

8. A board-wide list of IT Skills and Competencies should be formulated for teachers and students alike.

9. The board should create a standardized vehicle for the introduction, development, and maintenance of IT-based Communication Literacy skills for all learners within its system.

10. ITS should use the Greenbrier Network Image as a baseline for comparison as the elementary infusion is rolled out to other school sites.