A teacher’s journey: Reflections on the impact of new technologies on the development of inclusive curricula for diverse societies

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Abstract: This paper documents the journey of a teacher’s efforts to use new technologies to create inclusive curricula that are reflective of diverse societies. The paper spans her experiences over 20 years and documents changes in technology, approaches to content and strategies and reflects upon the successes and failures of trying to use technology to bring diversity into the classroom.

Keywords: Classroom Teaching/Practice, Digital Divide Secondary Education, Developing countries

1. Introduction

In an interview about his book, The Global Soul, Iyer explains how new technologies and travel affect our experience of the world, encouraging us to seek an even faster pace of change and increasingly newer technologies. He questions whether we are in charge of this fast-paced change. He inquires, in the tradition of McLuhan, whether this current pace may lead us to find ourselves in a place at which we had not intended to arrive.

If technology is never devoid of change, so then is the case with our lives. Due to mass travel and immigration of similar magnitude, there are few of us, who, in this increasingly fast-paced world, have stable and monolithic identities. Iyer speaks of his grandfather, who was born, raised and died in one place in India, and who never questioned who he was. In the Canada of today, few of us can claim such stability of identity.

According to Iyer, we live in societies, where it is difficult to ask people where they come from; we all seem to have mongrel identities. However, Iyer claims that if we cannot say where we come from, we lose not only our sense of place but also our identity. In the schools I teach, in the panorama of countries of origin of my students, in the multitude of identities and loyalties that my students grapple with,
I increasingly find that I must teach to these very issues. Students need to find their own identities and over the past 20 years, I have wondered if technology is not a hindrance but rather a catalyst to this process. Let me explain.

For Iyer, finding the global soul is about finding one’s identity. The challenges of losing identity for him are in some ways a form of liberation; losing old categories of the past from which we are liberated but subsequently facing the challenge of creating something new.

Iyer, I believe, is stating the obvious when he says that new technologies, especially those that have introduced new forms of travel and communication, have exacerbated this loss of stable identities.

My question is this; is technology destined to break our traditional identities and society, or can technology assist us in acquiring stronger sense of our own increasingly complex identities? Do schools play a role in leveraging technology in this manner?

This is a particularly important question to pose at this point in time given that we are amidst a particularly intense era of technology, one in which computer technology is widely utilized for social networking amongst young people (MSN chat, Youtube, Facebook, MySpace, blogs, etc.); each subsequent, new technology popping up even before we have had a chance to consider the ramifications of the first. Will these new social networks allow different voices to enter into the classroom or are they simply mirages that will not affect what we consider to be “important knowledge,” that which we impart in schools unchanged and untouched from generation to generation?

Over the past 20 years, I have been involved in using technology to bring diversity into the classroom; I have succeeded in some measures in this endeavour. Where I have experienced success is in my ability to bring many diverse voices into the curricula. Somehow in this journey, a deep questioning and critical analysis of inequities in society and conflicting identities has eluded students. In the next few pages, I will illustrate why I believe this.

My journey will begin in the early days of computing in education and ends with an action research study that ended about 6 months ago. I will document how despite early disappointments, I was eventually successful in getting students to incorporate knowledge of the other but also to incorporate critical analysis into the projects we studied. My journey began in a discovery to determine what went wrong with each project, and eventually resulted in success to improve my work such that I could share my learning with my colleagues who wish to use technology to improve inclusion in the classroom.

My journey takes many different paths – both in the roles I have played; doctoral candidate, university researcher, curriculum developer and now high school teacher. It also takes me down the path of types of computer power: text-based simulations, networking using a single modem and print-outs and then moving to students researching integrated technologies, using Youtube and Facebook to link to people across the world to improve inter-cultural understanding across the globe.
In this journey of my experience with new technologies and students’ emerging identities, I would like to discuss 4 projects that I have worked on. Each of them illustrates various developments in our history of using technology in education, which include:

   a) The breathtakingly fast-paced development in the speed and potential of technology.
   b) Technology’s increasing ubiquity
   c) An increasing awareness that educational institutions have somehow failed to use this technology to its best potential.

There are 4 projects that I would like to explore:

   a) A history simulation on the Bartlett Family
   b) The ICONS project
   c) The Other Story project: Phase One
   d) The Other Story project: Phase One

For each of these I will describe the project and what I learned about the potential of new technologies for the inclusion of diverse identities into the classroom from it.

2. Projects

2.1 A History Simulation

When I think about the beginning of my long journey with educational computing I am reminded of my early days of observing the implementation of computers in the classroom. More than 20 years ago in the early 1980s, I was a researcher in an Ontario government funded research project examining the impact of computers in classrooms. My task at one point was to observe how two teachers in one school incorporated the seven computers they had each been given into their classrooms.

At one point, I sat in the back of one classroom and watched students working with what were very specific tasks assigned to them by their teacher. Soon I found myself observing a young boy named Walter. I watched him work day after day on a history simulation called the Bartletts Family. It took a day or two for me to realize that Walter had developed an ingenious way to use the simulation to amuse himself while hoodwinking his teacher.

The Bartletts Family simulation was an award winning, carefully researched simulation of a pioneer family in Ontario whose trials and tribulations of establishing a farm, participating in the early political process in the still nascent civic society of Ontario became a fascinating way of exposing elementary students to history in an interactive and immediate fashion.

Young Walter, however, using the series of choices that allowed settlers to perish or progress through a series of simulated hardships, managed to sail through the simulation until it took him to a short program where the Bartletts had
to cook a stew using ingredients available to them. Walter’s sole objective and
delight was to create this poisonous concoction that would render the Bartlett
family too sick to proceed further, and would end the game. Walter was delighted
at this outcome and considered this to be an achievement of success in the
objectives of the program.

Walter enjoyed this process enormously and would rush through the rest of the
program until he came to this game, one which he played repeatedly using varied
concoctions of the recipe tirelessly several times a day unbeknown to his teacher.
This observation of Walter and the Bartlett simulation has become for me a
symbol of what new technologies mean for traditional classrooms and traditional
modes of literacy. There were 3 lessons that we can acquire from those early
observations of Walter, which I feel still apply today. They are:
  a) While computer technologies have an extraordinary ability to provide
     interactivity and immediacy to student learning, that very feature allows
     students to sabotage the learning process. How then do we design learning
     in order to avoid students hijacking our best efforts?
  b) It is clear that even from the first moments of word processing, technology
     changed our concept of literacy and knowledge creation. What are the ever
     increasing implications for literacy when classroom walls keep coming
down? Is there going to be some impact upon the inclusion of diverse
     voices in the classroom?
  c) While computer technologies provide an extraordinary amount of
     interactivity to students they also increasingly provide a transparency of
     student work. Does this mean that there will be more efficient academic
     accountability but even more important what does this transparency bring
     in terms of ethical and social ramifications?

In the next sections, I will explore the ethical and social ramifications of the
introduction of new technologies into our classrooms. If computers bring down
classroom walls, can they bring varied perspectives and voices into the classroom?
Can they assist students in learning about their own identities? Can they ultimately
help build pluralistic societies through fostering inter-cultural understanding?

2.2 The ICONS project

In the late 80s I was called upon to observe a classroom at SciTech school (a
pseudonym) partaking in a North America wide simulation known as the ICONS
simulation for their World Issues course.

ICONS, which stands for International Communications and Negotiations
Simulation, is as its name implies a simulation where students become negotiators
representing countries of the world in the solution of a series of important issues
called subgames. In the simulation that the students at SciTech took part in, these
four subgames were: Arms Control, International economic problems, Nuclear
Proliferation and Human Rights.
Unlike other simulations that last only a few hours, this one spanned several months - of which the first weeks were spent in preparation, the next four were the actual simulation and the last few weeks were spent in the debriefing. The actual simulation was first a series of conferences where participants from various countries took part at the same time. However, there was also asynchronous communication in the form of messages left in the mailbox at any time during the four weeks of the simulation.

All teams were linked to a central mainframe computer at a university, where using specially designed software, the computers handled thousands of messages. The most exciting part of the simulation was the real-time conference session, where students actually "negotiated" with students from other parts of North America. Two teams were present from Canada, with SciTech representing Canada. Similarly, one of the teams from the U.S. represented that country, while all the other schools represented other countries (e.g. Angola, Japan etc.). This too, was part of the exercise - which students learn to place themselves in the shoes of other cultures and countries, so as to appreciate their problems and views.

This was an exciting simulation because, for the first time it allowed networking across schools. I watched students work with a primitive modem (all I witnessed was a cable emerging from the ceiling as the students shared the one modem with the rest of school. The school was linked to NASA as part of a science project) and the modem was connected to one computer, from which everyone made printouts. This was a particularly interesting development; now the classroom walls were coming down and I believed I would witness diverse voices in the class. However, this presence of diversity of perspective and voice proved disappointing.

In the literature, the organizers of the simulation describe the simulation as being created to increase inter-cultural understanding and communication, and then present one political game that could take place, which would allow participants to come to grips and deal with rather delicate international relations.

In one instance, the simulation context is that the CIA has learned that Iran has in its possession a powerful nuclear bomb - such an incident would of course upset the balance of power in the Middle East. While describing and assigning country roles to various participants (again the participants are not from the countries they represent), a statement describing Iran's position is posited by the writers of the simulation:

"Iran can be made to behave in more or less menacing ways, not only toward Iraq, but also toward the Gulf States, Saudi Arabia and even Israel (via Shiite proxies in Southern Lebanon). Iranian moves do not have to appear entirely rational. (Page 17)"

In an almost eerie resemblance to current global politics, we see how media stereotypes (of Iranians being irrational, menacing) are played out, even in a simulation by a major university in the U.S. This is a rather unfortunate mistake as there are many students of Iranian origin in this school.

So, yes the classroom walls came down in this project and students began to discuss other cultures, countries and civilizations, however their viewpoint of
those of other cultures (here Iranians) did not change – dominant biased media perspectives continued to prevail unchallenged.

What lessons can we learn from this project? New technologies can bring new subjects of study and new voices into the classroom, but this does not mean we are rid of media stereotypes in how we deal with them.

Carefully researched and carefully constructed projects should assist us in moving beyond stereotypes to a critical analysis of local and global diversities, but unless we include authentic, credible voices from the “other” side, interactive simulations will not improve the understanding of diversity in the world.

In the next project description I will demonstrate how including authentic voices in the project does not always guarantee that this type of inter-cultural understanding will occur.

2.3 Other story project: phase one

It is perhaps in the next project: the Other Story project, of which I was the principal Investigator and creator, that the authentic inclusion of diversity (without stereotypes) has had the best chance to occur. This research project entitled, “The Other Story: Research in the Development of Telecommunications-Based Materials to Promote Anti-Racist and Critical Thinking in Ontario Schools”, was a research project funded under the Transfer Grant by the Ontario Ministry of Education from 1993 to 1995. It was designed to bring the “other” into the classroom but from within his or her own perspective, in hopes that we might find a critical analysis of the relationship between the dominant and other. Students were to study history with an issues-oriented approach.

The Other Story was a research project to develop curriculum for inter-cultural understanding through a critical inquiry, issues-oriented approach. The curriculum was a combination of classroom based discussion and an on-line conference linking schools throughout Canada to students and adherents of the culture being studied. The most important objective of the project was to study cultures from their own perspective. Students, teachers and adherents of the culture being studied were invited to participate in the on-line conference. It was envisaged that through this approach Canadian students would develop a deeper, more sophisticated and less media-bound understanding of different cultures of the world.

In the spring of 1995, eight Grade 8 classrooms including two from First Nations schools participated in an Internet conference that discussed issues pertinent to the portrayal of First Nations people and their relations with other peoples in Canada.

The conference was entitled: "First Nations Peoples: The Untold Story" and it took up a significant event in Canadian history and presented it to students both from the conventional text book view and from the perspective of the First Nations people. The conference was divided into 4 sessions - in the first session,
students read and responded to a story written by Susan Fletcher and Michael Dion, who were two First Nations authors. The story was about Mistahimaskwa (otherwise known as Big Bear in conventional text books) who dared to defy the encroaching Canadian government forces who wished to occupy and take over the land of his people.

In this first session, students were to read and respond to the story, after which they were to look for information on this event in other resources: textbooks, encyclopedias and/or school library books. Students were to ask themselves the question:

Have we been exposed to the First Nations viewpoint before? Why or why not? What does this tell us?

The response by each classroom was uploaded to be sent to all other schools participating in the project. Schools were to be identified by the presence or absence of First Nations students and teachers in their classrooms.

In the second session, students considered responses from Session 1 from the other schools in the project and composed replies to them. The students were to discuss whether they were in agreement with views presented, if they learned anything from other perspectives and if they wanted to contribute to the overall discussion in any way. Questions directed specifically at First Nations or non-First Nations peoples were welcomed. This input was uploaded and sent to all schools in the project.

In the third session, First Nations peoples and particularly the authors of the story from the First Nations perspective were to respond to the discussion from the previous two sessions. The fourth session was to be one of reflection - have we as teachers, students and adherents of the various cultures learned anything from this exchange of experiences? How does this portrayal of Indigenous and non-Indigenous peoples affect our relationship? How can we use this learning experience to affect a change in the relationship between us?

What happened in the interaction? It is impossible in this short amount of space to outline the interaction of 8 classes over a period of 4 weeks. However, some interactions can be highlighted to show how difficult it was to get students to think in terms of complexities. The need to seek simple answers, to point to easy explanations for what happened in the encounter of First Nations peoples and the newly arrived white peoples seemed to be the order of the day. It would be useful to quote Bhabha here who cautions us against these simple solutions:

"The day-to-day lives and struggles of people could not simply be seen in terms of binaries and polarities."

In my analysis of what happened, I will concentrate here on the on-line interaction from 1 school. As explained above, all schools start by reading the story of Mistahimaskwa written from a First Nations perspective and then compare it with their textbooks.

Here is the feedback from A.S. Dawson:

We compared the story from the text book and the story by Dion and Fletcher and noted the differences and similarities. Some similarities mentioned in both
stories was the way the native Indians were acknowledged as poor and starving from the lack of buffalo, which was their main source of survival. Surprisingly, the text books also looked at the grievances the natives had including the fact that the land given to them as part of the treaty was poor and inadequate. The location of the battles that were specified in each story was also identical. After the massacre at Frog Lake, both stories mentioned that Big Bear was tried and found guilty of the deaths caused by his warriors. The similarities that the story shared were basically the clean cut facts.

Because the information in the text books was slightly more European oriented, there were a few differences in views when compared to the Natives' story. Although the text books tried to capture some of the things the Natives were experiencing, the information was still mostly factual and not as personal as the story by the Dions. The text books did a fairly good job in reporting the story of Mistahimaskwa even including the views from the Natives.

In analysing the data from the students, it is interesting to note that in this exercise, the most important thing in comparing the texts is to determine which one is more accurate. The students begin by identifying the similarities between the texts of the two cultural groups as being the clear-cut facts.

What are facts? As Carr explains:

The historian is neither the humble slave, nor the tyrannical master, of his facts. The relation between the historian and his facts is one of equality, of give-and-take.

As any working historian knows, if he stops to reflect what he is doing as he thinks and writes, the historian is engaged on a continuous process of molding his facts to his interpretation and his interpretation to his facts. It is impossible to assign primacy to one over the other.

Thus we see that facts can never stand alone; in choosing the facts to include in their version of events, the historians from both cultural groups made choices. In other words, the facts themselves, rather than being neutral and value-free - "what happened" in the past - become in and of themselves, an extension of the historians' perspective and interpretation.

Students from the A.S. Dawson school fail to see that what was the history text book describes simply as the settlers taking the land of the First Nations through violent force, is actually unethical, illegal and above all cruel. It does not matter if what is reported is accurate – one must consider the legal and ethical ramifications first.

It is this exercise that Susan Fletcher was trying to get students to come through, what interpretation do we give to this event that happened to First Nations peoples, what does it tell us about ourselves as human beings, as Canadians? We cannot really complete this process until we examine the interpretation of the event from both perspectives - "those who did it and who it was done to".

A.S. Dawson students, in avoiding the question of what happened in the larger context of whether it was right that it should happened, have avoided bringing
themselves and their own positions into the story. In understanding history from the perspective of history as a neutral account, with no moral accountability, students avoid the larger question of whether the government acted fairly in this incident. They also avoid the question of how the historian (or the textbook writer) has interpreted this event.

When A.S. Dawson receives the print-out of the other schools’ responses to the story of Mistahimaskwa and their search for this event in their text books, the researcher is present in the class. Her fieldnotes show that she is struck by the fact that these students are adversarial in their response to all the comments that they have received from other schools – constantly trying to show that their response was “better” and that each of the schools did not respond well to the task. Their teacher sees no wrong committed and is only interested in proving that her students are the most articulate of all the other schools.

While the Other Story project makes great efforts to bring marginalized cultures into the classroom so as to encourage students in history classes to understand history and critical thinking from an ethical perspective, we find that unless the classroom teacher is engaged and knowledgeable in creating critical pedagogical environments, students descend into one upmanship and petty posturing.

Instead of an ethical accountability of the government’s “stealing” of First Nations land, students are reduced to arguing which text book is most “objective” and which class the most articulate. Later in the project, the heart-rendering accounts from a school of First Nations students living in a reserve in Northern Manitoba, where they have lost their land yet again to a hydro project is ignored, while students in cities continue to bicker on who is producing the best sound bites.

The above two simulations reveal the following:

a) Technology does provide unique opportunities for inclusion and interaction with diverse voices from outside the classroom.

b) Technology provides unique opportunities for the creation and introduction of non-mainstream content in the classroom.

c) Technology does not guarantee a critical pedagogy in the classroom – that is contingent partly on the content of the programming but much more importantly on the environment created by the teacher before, during and after the introduction of any new programming.

The final project that I would like to report on is:


In the fall of 2007, four Grade 9 English classes took part in a project entitled “Rights and Responsibilities in a Troubled World: Students reaching out to discuss solutions for the HIV/AIDS crisis”. The project was coordinated by Dr.
The basic aim of this project was to encourage students both in Kenya and in Canada, regardless of their place at the level of privilege or poverty, to consider issues of global responsibility and social justice. As part of this objective, students considered what role they could play in increasing global awareness of the issue of HIV/AIDS and how they could get involved in taking responsibility to learn about and assist others on a global level.

The second objective of the project was to expose teenagers to issues of globalization: Who is responsible for the global world order? What responsibility do Canadians have for the way poverty is distributed in the world? Why is it that some voices and perspectives are heard in the media and others are not?

Students used resources from UNICEF including a graphic text called Asmina’s Story, movies, and participated in other activities and in pre-arranged e-mail discussions. It was hoped that this international student exchange would foster mutual understanding and friendships.

The project was for the most part, successful as seen by these comments by David, one of the Canadian students at the end of the project:

“From my ISU research topic, I’ve learned many different consequences of our greed and demand for material goods. Knowing this point, I now understand that I’m also an indirect cause of poverty in Africa and other parts of the world. After this project, I still found it difficult to figure out a viable solution for poverty, considering the inequality most people are living in now. I also found out that only because of our aggressive ancestors that we are living in considerable wealth, while others are treated unfairly. The main message I learned from this project is that people are still living in poverty because of our unwillingness to change this fact, despite the disparity we caused.”

Why was this project successful when so many projects that link privileged and less privileged students do not achieve these ends? Warschauer (2002) believes that efforts to bridge the digital divide fail because the focus is too often solely on providing hardware and software and not on the content and social context of the interaction.

2.5 Discussion

In his article, “Reconceptualizing the Digital Divide”, Warschauer (2002) challenges the notion of the digital divide, stating that the concept provides a poor framework for either analysis or policy, and suggests an alternate concept of technology for social inclusion.

Warschauer points out that introducing computers into an environment is a complex affair both in terms of technology but also in terms of its content that must be relevant. In terms of technology, he points out that the computer is only a
conduit – it needs many other elements of technical scaffolding: electricity, access to networks, hardware, upgraded software, etc. Concomitant with each of these, is an ongoing support system.

In terms of dissemination in the curriculum, Warschauer explains that ICT implementation is similar to literacy. ICT has to make sense in a social context. Similarly, literacy is not just decoding – what might work for literacy in inner city North America will not work for madrasahs in Karachi. It has to work for people.

According to Warschauer, access to ICT is embedded in a complex array of factors encompassing physical, digital, human, and social resources and relationships. Content and language, literacy and education, and community and institutional structures must all be taken into account if meaningful access to new technologies is to be provided.

In a similar manner, Cummins et al (2007) point out that when introducing literacy and technology into schools and environments where there are low income kids, it is important to:

- use a pedagogical framework that identified situated practice, overt instruction, critical framing, and transformed practice as central components. The essence of this framework is that students should be given opportunities to engage in meaningful experiences and practice within a learning community, and the development of concepts and understanding should be supported by explicit instruction as required.

2.5.1 Construction of the Kenya-Canada Project: 3 components

It is posited here that, based on Warschauer’s model of effective overcoming of the digital divide, three components of projects must be taken care of. These three elements (technology, content and social inclusion) will be described as they impacted the Kenya-Canada project.

2.5.2 The technology element:

In an unequal world, how do we ensure that there is at least a semblance of equity between the two schools in Kenya and Canada? At first glance, it is clear that the digital divide is cavernous – the school in Canada has 4 fully equipped labs, a library with 50 computers, and all rooms with Internet broadband access. Students too come from homes where broadband is normal. The school in Kenya has no electricity, a few computers that are outdated and slow, Internet connection proves impossible. As Warschauer points out, the scaffolding needed for computers – steady supply of electricity, even dial-up connection, updated software and hardware and technical support are all missing.

The only connection the school has to the Canadian students is a weekly trip that the teacher (subsequently promoted to being Vice-Principal) makes to the Internet café, many miles away. There are gradations of access – on the one hand, the school in Canada has instantaneous access at every moment of the day, while
the school in Kenya has to depend on the vice-principal driving down every weekend to send messages that he must type up.

In a world of instant text-messaging, iPods and Bluetooth, telephone cameras and YouTube, how can Canadian students be patient with weekly e-mail that arrives in their classroom in the form of a print-out that they must share with each other? How do we stop time for the Canadian students, so that Kenyan students can catch up to participation with respect in this project? In discussion with each other, the Canadian and Kenyan teachers come up to a solution – why not have both sets of students work in groups of 5 come up with one answer per group to promote democratic discussion (and minimize typing)? Teachers would circulate to ensure that students discuss critical literacy oriented questions. Unlike the project that Wershauer describes in India, in the Kenya-Canada connection, technology does not drive the connection, but rather technology facilitates communication. The project is carefully constructed, week by week. During the first week, students introduce themselves to each other in terms of the philosophy of the project. They outline how they see themselves improving the globe. In the first and second week, the Canadian students read about Africa. They study the HIV/AIDS crisis, the disaster approach to journalism and learn about how Africa did not need to be saved by celebrities (Adichie (2008) and Iweala (2007). Students learn to apply critical literacy principles to reading two stories on the same subject of land and violence: one written by a colonizer and the other by the colonized whose land was taken from his ancestors. Throughout the 4 months of the projects, students in Canada conduct research projects on Africa. They learn about the unfair trade policies, the unwillingness to share anti-viral drugs with Africa, the exploitation of the mining industry, etc. But the most impact on Canadian students is a simulation called: World History of Racism in Minutes (WHORM), where they witness history from a thousand years ago to today, and they watch Africa collapsing under the European conquest and the devastation of slavery.

The focus of the project is not to use technology to share communication, but rather to share the content and context of inter-global understanding through a peer relationship across the ocean.

With this preparation, when the Canadian students read Asmina’s Story, a UNICEF text about the story of a young girl who is left to look after her young siblings upon the death of her parents to HIV/AIDS, they question why all the African people in the book are portrayed negatively while UNICEF comes across as a saviour. But when the Kenyan students (some of whom are AIDS orphans) come back with replies showing that they too have been helped by UNICEF, when no one else was there, it stops the Canadian students in their tracks and gives them a reality check.

2.5.3 Importance of social inclusion

The Kenyan-Canadian connection is a strong one in that it builds upon 3 levels of scaffolding: a strong connection between the teachers in Kenya and Canada,
who communicate regularly, almost daily at times, through cell phone text messaging. Secondly, there is a common teaching philosophy and clear objectives. Thirdly, the project limits itself to the technology available in Kenya, and focuses instead on comprehending the social and political context of the people it studies.

To illustrate, when one of my students came up to the front of the room to present on Wangari Mathai, a Kenyan female Nobel Prize winner, she was dressed in African clothes and spoke passionately of women’s rights and the importance of believing in a cause – that of protecting her country’s sustainability from deforestation.

Thus, while the technology was very much present, it was not the dominant force in the project. Our weekly communication with Kenyan students brought a hush of excitement to the room. In fact, at one point, when the Kenyan teacher, Mr. Tasma, arriving at the Internet café, is faced with a black-out and has to wait outside for 10 hours for the café to open, Canadian students are fascinated by this devotion and this break-down in basic amenities. They talk of it incessantly and suddenly appreciate the ubiquitous technology that they take for granted around themselves.

2.5.4 Findings:
It can be seen from the above project that using promoting inter-cultural understanding through the use of technology can be achieved if:

a) the Curriculum must drive the project, not the technology: complex context has to be part of the preparation for the project: both in terms of access to technology but also in terms of understanding the region one wants to work with
b) The project must have clear objectives and philosophy
c) It is important to slow one’s pace to meet the needs of the region one connects to – so that social bonding, background knowledge research and technical problems can be taken care of.
d) Access to technology is not as important as critical reflective analysis and an ability to express oneself well in a common highly used language. In this respect, Kenyan students were found sometimes more capable than Canadian newcomers.

It is important to remember technology cannot drive the curriculum, nor the inter-cultural understanding – it is the slow pace of building context, social relationships, understanding of one’s own global responsibility to others that must drive the building of the bridge across the cavern of the digital divide.

3. The end of the teacher’s journey

As I sit back and think of the various technology projects that I have been involved in: watching Walter deal with the Bartlett Family reducing a complex,
well-written, well-researched simulation into a mindless game of destroying the family as fast as possible in algorithmic fashion, then watching the ICONS project dissolving peoples of the world into the rational and the irrational (us and them), and then observing the ethical and historically accurate dimensions of the Other Story project being reduced to mindless politically correct posturing and provocative sound bites, I ask myself why were students and technology always sabotaging our best efforts?

After careful reflection, I do not think that the fault is that of technology, but rather that of the teacher or the curriculum writer who is unaware of this attraction of gizmo-gabble for youth. I do believe that in each of the projects discussed above, if I or the teachers involved in the project, had designed the learning environment so that it involved the principles of critical pedagogy and encouraged students to look at the significance of what they were looking at, encouraged them to look for critical analysis, marked them for critical literacy that encompassed ethical viewpoints and accountability to the marginalized, we may have seen different results.

Writing this paper, where I am trying to identify why I was so dissatisfied with the students’ work year after year, I suddenly realize that the process of finding identity is not simply one of bringing information about the diverse peoples of the world to sit side by side with the dominant Western perspective, it is much more than that. It is a process of discovering and having students discover the power and political relationships that exist.

In all the projects that I described above: the Bartlett Family simulation, the ICONS project, the Other Story project (phase one), students were not encouraged to question and critique reality in the tradition of Freire who considered all knowledge to be political. For Freire, education was exposing students to the relationships between the powerful and the powerless and thereby awakening the students’ agency.

What then has been missing from all those projects? It is not the knowledge of the other, it is not the perspective of the diverse peoples of the world, it is not the interactive participation of students and it is certainly not the absence of the latest gizmos which students imbibe instantly; it is this critical analysis of the unequal power relationships between the Iranians and the U.S., the First Nations peoples and the government of Canada. In all the projects, the marginalized other was not a free agent to do as he or she wished. In order for a project to be successful in introducing diverse voices in a respectful manner into the classroom, one needs to focus on their relationships with those in authority in various places.

In my description of the journey that I have taken with technology in the past 20 years, I realize now that it was not the absence of a literacy approach that promoted reading and writing that was missing, nor was it literacy approach that promoted knowledge of technology that was lacking. It was critical literacy that had not been embedded consciously and conscientiously into the curriculum.

As the students in the Other Story project failed to realize in their work, learning about the oppressed other is not about being politically correct – it is
about the relationship of the dominators and the dominated and that relationship is ultimately not about the objective reality of the relationships between people but rather the fairness and ethics of the relationships. In seeking to encourage my students to explore their identities in class I must not shrink away from those that evoke conflict.

In the final phase of the Other Story project, I succeeded because I started with that philosophy. It is a noble goal to bring the “other” into the classroom, to deal with the story of diverse peoples not normally dealt with in the classroom. But it is simply not enough to bring them in; it is important to “problematize” the relationship of the dominant and the less dominant – it is important to consider the conflicts and power struggles between cultures so as to engage students in more critical ways.

With the ever increasing pace of change in the development of new communication technologies, as well was with the increasing migration of peoples across the globe, new challenges in identity formation, peaceful negotiation of community, national and international co-existence, the need to learn about each other's complex identities, place greater pressures on our educational systems. This paper has tried to provide information, discussion, sample projects and above all a critical analysis on the increasingly symbiotic relationship between complex identities and new technologies.