Can I Ask You a Question?
On Global Studies and Solutions

by
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Bachelor of Education, 1993
University of Victoria

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Supervisory Committee

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ABSTRACT

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The Institute for Global Studies (IGS) at Claremont High School in Victoria, Canada is a distinctive local example of "transformative education" that features a transdisciplinary, problem-based and globally oriented program within the public secondary school system. Launched in 2012, and arising from earlier pioneering courses in global studies, the IGS has now graduated two cohorts, and has led the founding educators to raise questions about which aspects of the students' experience were thought to be most important after graduation and what graduates did with the skills they acquired.

Part 1 is an extensive description of the background experience of the main founding educator that led to the creation of the original global studies course, and eventually the IGS itself. Part 2, the study itself, includes a review of relevant literature. It draws upon a range of writings about transformative education, including reviews of "whole school approaches to sustainability". Relatively few systematic evaluations of these programs were found. A recent study from Bangladesh evaluated the effect of a climate change curriculum using a randomized cluster design. It demonstrated significant increases in relevant knowledge gain by students using the government recommended curriculum.

The research question in this study was: "*What impact has Global Studies/Global Solutions had on students who have taken it and what will they do with the skills they have acquired?* Semi-structured interviews were conducted with eight (8) program graduates, using a set of standard questions as a guide. Study participants were selected from a pool of graduates by an independent researcher, to ensure a range of views, taking into account gender diversity, ethnic diversity, experience with both programs (Global studies and IGS), and post-program experiences.

Research findings about program impact included both expected and unexpected results. Expected impacts included the transformative nature of the learning, the positive (hopeful) experience itself, and the effectiveness of the interdisciplinary, problem-solving approach. Unexpected impacts included the power of collaborative learning, and the value of guest speakers from various backgrounds who served as powerful role models. Regarding how graduates used what they learned, this included the further application of interdisciplinary learning and problem solving at a university level, and increased confidence that they could "make a difference". The experience also guided career directions--for example, in the choice of university study programs. One graduate is volunteering with a non-government organization at a rural school in a low-income setting. Another graduate, while not going on to tertiary education, is using the experience to guide his work vocation.

In summary, the global studies/IGS program has had important impacts on graduates, both expected and unexpected. Graduates use distinctive learning skills in subsequent university studies. For some the experience influenced specific career directions.

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Acknowledgements

This journey was, as journeys always are, supported by many people. Some are known, and likely, some are unknown. I thank them all. My co-supervisors, Doctors Alison Preece and Andrew Weaver, both of who have moved on to powerful and new roles in life have been both gentle taskmasters and inspirations. The other member of the committee, Dr. Smith, although I didn't spend as much time with him as I would have liked, found ways to be supportive and encouraging and I honour his willingness to work with me, especially in the early stages. Thanks to Dr. Rick Kool for helping support me in the early conception of this masters question. Education is a journey that begins with the willingness to walk together. The journey has been a long one but I couldn't have asked for more remarkable companions.

I had the opportunity to interview eight remarkable young people who answered my questions with honesty and clarity. I thank them for finding the time and for their willingness to continue to be a part of the program that has now become the *Institute for Global Solutions.* Thanks to the co-conspirators of that program and especially Graeme Mitchell for making teaching so much fun and so important. I've had the opportunity to walk part of the journey of so many students. I thank them for welcoming me on their path and for everything they taught me.

I acknowledge that all the years of this program were at Claremont Secondary, which is on Lekwungan territory. I hope that my years of teaching help the effort of decolonization. This province and country has so much potential to help heal and lead the rest of the world. I hope to be part of that journey.

My parents were my first teachers and that has never stopped even to this moment. I am truly blessed. And finally, to my wife and to my sons: all my effort, and any wisdom that comes from this journey is dedicated to you, so that your lives may be in a world that embraces the solutions that exist even as the challenges are great.

PART 1- THE STORY

"… without passion, we are without reason." --*Paul Hoggett*

An Introduction

Mine is a gifted journey. That is any gifts that I have are a result of the kindness and gifts of others. If I have any natural gift, it's passion. This is why Paul Hoggett's six words have me leaping for resonating joy.

It is on purpose that I choose to write a narrative thesis. "Purpose" is precisely what a teacher midway through his journey, re-embraced. But this is a story of many journeys, beginning with mine but including eight former students. I have learned a great deal from inspired minds and the books, academic journals and articles they've produced, but it is my students, over the nine years of this global education journey, that have informed my work the most. And because it is our journey together that will best answer the larger question and sub- questions at hand, it is fitting and appropriate that they get the last word.

As I write, I am twenty feet away from and above the Koksilah River. Across the other side is a provincial park. I sit on a balcony atop a house made primarily from wood milled from trees that floated down river and got caught up on the rocks in the middle. This is my home. I chose it. Maybe it chose me.

Although I was not cognitively aware of the emotive effect this gift of earth and water had on my choice, it is clear to me now that it informs my work/projects and in a real way, my relationship with global and environmental themes.

Passion has always been a part of my modus operandi. Reason has only come with experience, and not always easily.

My audience, if you will, is young people between the ages of 14 and 18. It has been true for the better part of 22 years, although not always at the public school where I now teach. I spent early years teaching on a reservation at *Chehalis Community School.* It is there that I really

learned how to be a teacher. Our current *Institute for Global Solutions* has grade 9, 10, 11 and 12 cohorts. This year we'll serve 152 students. It is an interdisciplinary offering that focuses on the world's most pressing challenges in a way that strives to be *authentic* but hopeful. It is our hope that the experience is transformative, that teenagers will leave so convinced that the solutions available equal or outweigh the corresponding challenges, that they will make the kind of decisions regarding post-secondary, work or travel/volunteer choices that allow them to do something about those challenges. It's possible their worldview has been changed but we hope, at the very least, that they feel encouraged, even empowered by what they've learned. Based on the evidence that arrived in my research, our hopes have played out.

My primary audience, like me, tends more toward passion than reason. (I realize that is a delightful understatement.) I like to describe my students like this: they don't really have a "no" switch. They don't resonate with statements like “It can't be done". The IGS 12 class recently returned from Portland, Oregon where forty-four 17 and 18 year-olds met Mark Lakeman, founder of the "City Repair" movement that is "reclaiming" communities across the U.S. and Canada based on sustainable principles[1]. Lakeman encouraged our students to become "an unstoppable form of your own 'yes'", I realize, as a result of my dabbling with adolescent psychology, that this is likely because many of them come with the physiological make-up of an adult, but their psychological make-up hasn't caught up. They have the confidence and fearlessness that can be associated with one who has another putting a roof over their heads and a meal in their belly. They haven't yet developed that part of the brain that tells them that what they're doing doesn't make sense. But here is why I'm so eager to engage this topic: What we adults are doing doesn't make sense either.

I am guided by Einstein's assertion that "we cannot solve the world's problems at the level of thinking that created them" (1946). More to the point, Orr, states that the environmental “crisis cannot be solved by the same kind of education that helped create the problems" (1992, p. 83). To me, teenagers, for the most part, have not yet adopted the level of thinking that created our planet's most pressing challenges. Though they may be practicing many problematic

behaviors, if that's true, it's because we adults don't put enough intent into how we mentor. And while I am also a mentoring work-in-progress, I am becoming more and more aware that we may need them more than they need us. My job as an educator, as I see it, is to enable the young people I work with to become problem solvers ... undaunted, resilient, problem solvers: undaunted by words like "unrealistic" and unafraid to break down the barriers of the maze of separate disciplines we adults have created for them. I am a 21st *Century* educator in that I believe in cross- curricular or interdisciplinary learning. I see students simultaneously reaching into formerly distinct subject areas like history, geography, politics and policy, economics, law and yes, psychology. My supervisor, Andrew Weaver, is fond of reminding us that science informs policy, it does not write it. When one is trying to make good policy, one must avoid policy-based evidence making and instead aim for evidence based policy- making. I am interested in my students informing *and* writing policy.

I also recognize that good policy is also informed by one's world-view, by one's values. We at the Institute for Global Solutions value authenticity but try, as Wendell Berry states in *Hope, Human and Wild* " to search always for the authentic underpinnings of hope" (p. 3).

I call students resilient, because anyone who looks closely and honestly at our planet and its people will inevitably find many challenges. Like levels on a computer game, I hope my students will then bash away on the keypad until that problem too gives way to the next challenge. As Canadian singer/songwriter Bruce Cockburn said, "[we've] got to kick at the darkness 'til it bleeds daylight" (*Lovers in a Dangerous Time,* 1984). One of the students I interviewed tattooed that quote to her arm when she turned 20. Her choice, not mine. At 24, she is a regular kicker of darkness and the subject of my first interview.

Correspondingly, I recognize the power and responsibility of passion in the hands of a teacher. We are blessed with an impressionable audience, but like Spiderman, must recognize that it is a great responsibility. 21st Century learning also recognizes the latest research that suggests that students who guide their own learning, learn best. In the education vernacular, we call that *inquiry-based* learning. In my increasing knowledge of science, I've begun to understand it's akin

to *scientific method.* In critical thinking, we look for biases, extensively research, and recognize that problem solving is a journey. Our job is *less* to teach, preach or otherwise control young minds; I feel it is to inspire and teach skills or *competencies.* Above all, it is to mentor change. This point was powerfully made by Wolff-Michael Roth, an influential *placed-based thinker* and science educator who joined my *Global Education* class at the University of Victoria one evening and shared some of his research. He said that:

> All of a sudden I came to realize the potential in society that currently is not realized - the possibilities that exist once every student is treated as a full member of society who contributes to its reproduction and transformation rather than as a diminutive being whose knowledge deficiencies need to be fixed.
>
> (On Activism and Teaching, 2009, p. 45)

I believe educators should at once feel challenged and emboldened by Roth's thought. We should wake up at night and find it hard to sleep again when we consider how blessed we are to walk beside these young people for a short time. I am also involved in environmental communication and education outside of the classroom. I write. I walk the inner circles of some exciting politicians. I walk on legislature steps {in B.C. you're not allowed to sleep on them}. Sometimes I even advise.

I am dedicated to the idea that I will do everything I can to pass on the planet is inhabitable; one that I want my sons to inherit. I am aware of the magnitude of that challenge. I very much want to understand where cognitive processes and reason accept that emotion, energy and passion are an inevitable part of the human equation. I am not "reluctant to speak what is most important to [me]" (Nicolsen, 2003, p. 9) although I realize it exposes me. I just want to speak as best as can. The urgency of the times requires it.

It begins with a journey

And I can see those fighter planes
Across the mud huts where the children sleep
Through the alleys of a quiet city street You take the
staircase to the first floor Turn the key and slowly
unlock the door As a man breathes into a saxophone
And through the walls you hear the city groan
Outside is America

--(Hewson, 1986)

In 1988, I quit school because I had no idea what I wanted to do. I quit because I thought I wanted to be what my father is and that is a doctor. Of the many powerful mentors I've had in my life, he is still the most impactful, even to this day. His journey, as it turned out, was not my journey. It took a life-changing trip to El Salvador in the middle of a de-humanizing civil war to answer that question. I was raised in a church that put its money where its mouth was. That July of 1988, St. Cuthbert's sent ten young people to become, essentially, human shields for the work of a Baptist church in the capital city of San Salvador. They were guilty of running farming co-ops, literacy campaigns and an orphanage outside of the city.

Those close to my age will remember that Paul Hewson, better known as Bono, wrote a song called *Bullet the Blue Sky* that appeared on their *Joshua Tree* album in 1987. In the summer of 1988 three missionaries, both Salvadoran and American showed me the hill above the orphanage where Bono watched the American-made Huey helicopters and fighter planes return from a day of firing on remote mountain villages on the off chance they might hit "rebel" fighters. Salvadorans called them the 9 to 5 army. We "missionaries" heard them take off every morning and return every evening over a former pharmacy that the church used to house gringos like us. I once stared down a soldier who stood behind a M-60 machine gun whose pilot stopped to inspect the strange sight of white people standing in the street. Defiant, I was like so many young people who thought they could change the world. In 1992, Boutros Boutros-Ghali and the United

Nations did just that when EI Salvador signed a peace treaty between EI Salvador's military government and the rebel/political group known as the FMLN (Farabundo Marti National Liberation Front in English).

In that same orphanage, I was trying to teach kids, in very poor Spanish, how to play basketball. It looked more like rugby meets soccer but since they were having fun, I suppose, it didn't matter. It was a beautiful and powerful moment and one that still exists in my mind's eye. It suddenly dawned on me that I should be a teacher ... that teaching was, in fact, what I was supposed to do. I don't know how I missed it to be honest. Neufelds have been teachers or preachers in my father's lineage for seven Mennonite generations. (Ironically, we were terrible farmers.) I had coached since I was 17 but at that age any suggestion that teaching might be a profession reminded me of all the teachers I was suffering that I *did not* want to be. I now wonder, as a result of my research and experience, if it was less the teachers, and more the subject matter and the teaching *environment* that blinded me. Something clicked that day. Could my church leadership and my parents possibly have known that trusting me with one of my hemisphere's biggest problems only months after turning 22 years old would help me find the central passion that has guided my life? I don't ever remember my mother being more excited than the night I came home safely.

When I returned to university the following fall I was interviewed and accepted into the University of Victoria B.Ed. program. That was the fall of 1988.

Learning from Students

"I'm here to get an edumacation."

-Harlen (Chehalis Student, grade 12)

When I graduated education, in English and PE, I had had an amazing experience as an Intern at Claremont Secondary in Victoria, B.C. Claremont, although it has changed a great deal since then, was a lot like my high school. It was in a relatively upper middle class neighborhood with a few exceptions and was therefore common ground for me. I had remarkable help from sponsor teachers and graduated committed to the idea that one day I would be so successful at eco-

tourism that I would fund my own school based on outdoor/environmental principles. I was 27 in 1993.

What I needed to be a good teacher, however, was humility. I understood service. I did. I learned that from El Salvador and from watching my parents but my experience as a teacher, at least at this point, was too much like *lithe* cave" I'd grown up in. When I finally left the cave, it took a number of uncomfortable circumstances within the cave to make it happen. I needed to question who I was.

Where I arrived was Chehalis Community School. Chehalis, now Sts'ailes, having been reclaimed from a colonizer interpretation, is north of Chilliwack and far enough away from the world I knew that I found humility. I taught the children of residential school survivors. It has informed my teaching journey and how to answer the question:

“How do we teach the world's biggest challenges to senior secondary students in a way that is authentic but hopeful" as well as anything in my personal experiences.

How? You have to go where the challenges are authentic whenever possible. This experience helped me question the very essence of who I was. I thought, as so many good people who suffer white privilege do, that I would ride in on my white horse and help these poor people. I am embarrassed by the remembrance. I was the 4th non-native teacher that year and it was January. In hindsight, I did very little of the teaching and a whole lot of the learning. It changed my life and continues to inform my participation in the *Institute for Global Solutions* to this day. I would have left and likely never taught again were it not for a conversation with one of my students I had barely passed in Humanities 11/12. When Johnny pulled me aside and told me that he believed he would never have graduated without me, it changed my life. And it formalized just how powerful young people can be when adults listen to them. I began to understand that our job is not to fill them up with knowledge; it is to guide their learning and to learn beside them.

My second year at Chehalis (Sts'ailes) was a different experience entirely. I was enabled by the elders and school leadership to take the students into the wilderness. There I learned from them. Ronnie taught me how to listen to trees in my first year. I learned how to tell when a stream was clean enough to drink from. But of all of the students who taught me that year, Harlen taught me the most. When I asked him at his graduation why, at 20 years

old, he never drank alcohol, he replied that he'd seen what it had done to his people. He had never had a drop. Harlen's parents had never gone to residential schools. His grandparents had never gone to residential schools. In the turbulent *res* politics of *post-Indian* Act Sto:lo Nation, the Leons were always respected as people who could find common ground as they had held onto their teachings. In fact, they had never lost them. When I left Chehalis to pursue my eco-tourism career I had begun to navigate my way through one of my country's biggest challenges: reconciling with and beginning to learn from its indigenous peoples. I learned it from my students.

Global Studies begins

"Can I ask you a question Mr. Neufeld?"
Yep.
"Why do we even have nuclear weapons?"
Anne, grade 10 English

Anne's question at the end of our unit on *The Chrysalids* would change the course of my teaching career and, totally unbeknownst to her (and me), begin global studies at Claremont Secondary. Fortunately, I was bad enough at making money from eco-tourism that I returned to teaching at Bayside Middle School in 1999 after meeting my now wife. My experience at Bayside reminded me why I love teaching and it began a history of working with administrators who took risks and supported innovation. But it was Anne who showed me just how powerful questions could be.

My challenge to this point, as I suspect it has been for many teachers, is that *the curriculum* rarely affords us time to engage really BIG questions from our students. There are moments, of course, where we draw on post-apocalyptic novels like *The Chrysalids* and try to reach our students with what's happening in the real world around them. This question needed time to truly answer. My response to her at the time was "…that's as profound a question as I've heard from a grade 10 kid. I hope we have adults asking the same kind of questions".

It was shortly after this that I drafted the initial version of Global Studies with my father who was a pioneer of problem-based learning back in the early 70's at McMaster University's medical school. We decided on six units that we would take on and began to draft some projects and some tough questions for students to wrestle with. It was with great trepidation that I approached my principal for his support to offer Global Studies 11 as a board approved course. He supported me immediately and I've had nothing but support since then.

The following year 23 kids chose to take Global Studies 11 and the journey began. We started with global warming. The year was 2005. I knew I was getting somewhere during "Meet the Teacher" night. Normally, one can expect, maybe, eight parents at the grade 11 level. That night 34 parents arrived. I knew that I was either on the right track or I was about to have to justify my new course (there was at least one former Republican in the group who was a climate denier). The one question I remember was "What are you going to do for our kids next year in grade 12?" There was overwhelming support and the genesis for an advanced version of the course in the following year.

Institute for Global Solutions begins

As has been mentioned previously, the *Institute for Global Solutions* (IGS) began officially when the Board of Trustees of Saanich School District #63 in 2012 supported the idea of an academic institute of that name. Now in April of 2015, the Institute's collaborative teaching team will have to take on the difficult task of choosing who will be able to participate in the 2015/2016 school year because the applications for admittance far outweigh the number of spots available. In a school of 1200 students, there will be nearly 200 students in IGS including students from allover the world. Our newest offering, IGS 9, combines Social Studies 9 and Science 9. For the 45 initial spots being offered, there are 59 applications, including 28 applicants from out of catchment and as far away as the B.C. Mainland and Fraser Valley. This does not include international students who have been an important addition to IGS.

Our district has an increasing enrolment of international students. It is no secret in British

Columbia's public education circles, that funding from those students is helping keep our public school system afloat though the large tuitions charged {about $l1,500/year in Saanich}. Whereas the increasing percentage of spots occupied by international students in a given public school has created related challenges in some schools, IGS has definitely benefitted. Last semester our IGS 11 class had representation from nine different countries: Germany, China, Japan, Colombia, Brazil, Mexico, Spain, Singapore, the United States and, of course, Canada. This global perspective that is engendered by such a remarkable collection of young people when taking on the most pressing challenges of the world is exceptionally powerful. And it was totally unintended. We are the beneficiaries of the changing educational reality faced by British Columbia. Relative to schools in places like Burnaby and Toronto that I've heard about who gain new students every week and often from countries in conflict, the international perspective only strengthens our program. These kids bring a perspective that at once expands the thinking of our Canadian students and pushes them to do better. I grow increasingly satisfied and honoured that we are sending young leaders into the world that will have impacts, quite literally, all around the planet.

In fact, the head of recruiting for Saanich International Student Program, vice- principal Spencer Gray, noted that he now leads with the "Rails to Relevance" trip {part of the IGS 11 offering-please see page 29} in his recruiting both in Brazil and in Germany. A similar challenge of applications outweighing spots exists at the IGS 11 and IGS 12 level where there are 50 spots each. The program design is clearly resonating with students and parents.

It is instructive to note however, that before one attributes this success to a bold group of founding teachers, a number of very powerful factors came together at the right time, including District 63 instituting "collaboration time". In Claremont's case, we have every Wednesday to guide our own collaboration for an hour at the end of the school day. It was in October of 2011 when a colleague who was teacher-sponsor to a young Graeme Mitchell brought the two of us together during collaboration time. We had each known of one another's work and had acknowledged in passing in the halls that we knew we had to sit down together. Weeks went by, however, until it finally happened. The initial design planning of IGS happened almost entirely in a series of one-hour collaboration sessions that had been allotted to us.

This wasn't the only circumstance in the innovation eco-system of interdependence. Our

superintendent, Dr. Keven Elder, had begun a few years before to visit staff meetings showing videos and speaking to teachers and administrators about the works of Sir Ken Robinson and John Abbott. It immediately sparked my excitement. He had felt enabled by the work of B.C.'s Ministry of Education on "21st Century Education". It wasn't long after that an opportunity was offered to meet as a group of educators with members of the Ministry of Education, the University of Victoria's Faculty of Education professors, administration and teachers. In all of my years of teaching, I had never seen a room like this. The excitement was palpable. Educators seemed to believe that there was a legitimate willingness to move forward with innovation and change. As I described what I thought Claremont's Global Studies interdisciplinary contribution could look like to my assistant-superintendent, Nancy MacDonald, she was the first to suggest that it could be a kind of an institute. It is she that first floated the idea. And the idea had "legs".

During the spring of 2012, Graeme Mitchell and I were given the opportunity to join a larger group of the same representatives at the University of Victoria who had successfully invited John Abbott to join them for nearly a month. The IGS team had the opportunity, not only to meet with Dr. Abbott for an hour, but also to receive a visit from him with our first group of IGS 12 students. Since that first genesis, we have received solid support from our school administration, district administration, members of the Ministry of Education and the University of Victoria and Royal Roads Universities.

PART 2 - THE STUDY

Chapter 1: Background and Rationale

I have had the opportunity to design and teach a program called Global Studies for eight years now at Claremont Secondary School in Victoria. It has had two levels: Global Studies 11 (Knowledge) and Global Studies 12 (Leadership). I have also had many frank and wonderful discussions with educators who teach similar programs. Previous to running this program I had had many experiences teaching English, Social Studies, Science and First Nations 12 where in-depth discussions had resulted by honestly engaging students in some of the big challenges. From climate change to nuclear conflict, these questions leapt out of natural responses to regular curriculum. It has been my journey to design, ask questions, gain input and then re-design a program that takes on these challenges and provides solutions. Three colleagues and I gained permission to begin an *Institute for Global Solutions* (IGS) in September of 2012. It is a highly collaborative, hands-on and interdisciplinary program. It combines Social Studies 11 with Global Studies 11, at the grade 11 level, and Geography 12 and Sustainability 12 in the grade 12 offering. During the fall of 2015 we will begin our first "science- offering" for grade 9 students providing an entry-level program where students will gain credit for both Social Studies 9 and Science 9. Because of the early success of the “social science” model, we’re likely to offer a grade 10 course of the same design. Where possible we will cross boundaries and create an interdisciplinary offering that suggests using science and the lessons of history to inform how students can think critically about current times. Research across modalities will back critical thought about today's big challenges.

We are at a unique time for education in British Columbia in that we teachers, at least those who are connected to IGS, are trying to adopt the philosophies of John Abbott. One of the constants in his *21st Century Learning* is that there is strength in collaboration. Abbott feels that our province is unique in that by "[placing its faith in local decision-making, British Columbia is far better able to innovate than is possible in congested England" (2012). Our institute is the work of three (now four) teachers and our program is based on constant

collaboration. In a sense, I have had the opportunity in my research to collaborate not only with my students but with other teachers as well.

In the more than two decades of teaching in British Columbia that I've experienced, there has never been such a willingness to re-define how we teach and to re-think how students learn. We have worked closely with the Ministry of Education and their *B.C. Education Plan* website has featured our institute as an example of 21st Century Education. We have worked with all three universities on Vancouver Island, and closely with the pre-service teachers at the University of Victoria. Two of us have worked as instructors in the faculty's TRUVic program that offers new education students the opportunity to visit schools right away, beginning and finishing the day with seminar work. TRUVic has the real possibility of becoming a national leader in innovative and interdisciplinary teacher-education. This study informs exactly how interdisciplinary thinking, problem-based learning and project-based implementation can become a part of public school programs.

And the key is that they are in *public schools*. There are many excellent independent and private schools offering outdoor and environmental programs. There are also independent programs offered to public schools at a cost. If we accept that we need societal change, however, then we need to accept that public education is its best vehicle.

The purpose of this study was to explore the nature of the impact of experience with a course/institute that attempted to intertwine mandated curricular content in history, geography and the sciences with an understanding of the environmental and global human challenges. There is a level of engagement that emerges when students recognize that the information they're being taught is tied directly to real-world problems and not to be memorized for its own sake. Interdisciplinary public programs that get out into the community and local environments are rare and it is this gap that the *Institute of Global Solutions* addresses.

Young people face unprecedented challenges like climate change, the related problems of food and water security, and the social upheaval that ensues. They are also experiencing rapid technological change that influences how they learn and that can also be harnessed to shift the

very energy system on which our economy is based to one that is cleaner, more sustainable and that will change the very nature of community. To suggest that we can continue to teach them in the same way we adults were taught is naive. We will need their critical thinking and their creativity intact. Challenges this big cannot be solved within single disciplines. We need problem-solvers than can move seamlessly between disciplines to help us figure out where the solutions lie. As I've said to my students: We cannot save the world within a single discipline.

It is finding ways to present some of the biggest challenges facing society to teenagers that I now better understand. Certainly there are great examples of teachers *making a difference* or encouraging *transformative* experiences among their students. I believe I have been a part of these myself. We have four *required* years of high school with young people who go from adolescence to young adulthood before our eyes. At this point they make huge decisions about what happens next. For many, their frame of reference for this world will largely be defined in these four years. It is an exciting and terrifying responsibility for a teacher who can identify with critical theorists who strive to understand „... a world where status is not accorded equality and [where] social scientists feel a responsibility to make a difference" (Somekh, 2011, p.2). As a long-time veteran of teaching, I also feel that responsibility.

I have had my eyes opened to the special features of qualitative research and its continuing journey to try to embrace and inform the complexity of the human experience. Instead, of trying to reduce human society's experiences and phenomenon to quantitative numbers, it seeks to expand the possibility of research, and through research, understanding.

Three overarching questions guide my research:

1. Does the specific inclusion of solutions-based learning help with the hopelessness that young people sometimes experience while studying global challenges?
2. Do 'hands-on' and field study learning opportunities in the community help solidify helpful solutions?
3. Does an interdisciplinary approach to learning effectively integrate traditional subject matter in a way that helps solve problems?

Research Question:

What impact has Global Studies/Global Solutions had on students who have taken it and what will they do with the skills that they have acquired?

Chapter 2: Literature Review

The background scholarship relevant to my research question includes literature related to formal global education. One of the most helpful teachers in terms of developing my pedagogy has been John Abbott, both through his book *Over Schooled and Undereducated* (2010) and through his lectures at the University of Victoria during the fall of 2012. Dr. Abbott and I share the belief in the importance, indeed the urgency, of challenging the traditions about how we teach adolescents. On his website *21century.org* Abbott writes "In this lies society's - and the planet's - best assurance of a positive future" (2010). Abbott speaks of the rise of specialization in both school and work at the cost of the ability to see the big picture. In his document *Schools in the Future: What has* to *change and why* (2010) written specifically for British Columbia, he suggests a number of specific pedagogical changes including:

- A much greater emphasis on experiential and situational learning, especially as the student gets older.
- The evolution of the teacher from the role of instructor when children are young to a much more complex and professional role of learning facilitator, as children get older.
- Rich assessment and reporting based on competencies rather than courses or disciplines, and that uses language and artifacts rather than scores to show achievement.

I now turn to what is already known about teaching global challenges. I will look first at why, according to the literature, we are *not* preparing young people for the world they will face and I detail the approaches that have resulted. Kayla Rice noted in her prezi presentation on Walt Werner's *Teaching History in the I/S Curriculum* that "[the world is not a safe place. If the adults are scared, what chance do kids have?" (2012). It is our job to make to find positive solutions, despite that fear.

Werner's work on *Teaching for Hope* (1997) has been endlessly helpful. In his paper "What Happened to Controversy" (1998), Werner points out that "important issues are not raised in classrooms about: relationships between economic development and environment, poverty, or the well being of future generations; social and ethical consequences of new technology; inequalities around gender, ethnicity, or class" (p.4).

It is a sentiment we have tried to take on with rich conversations in our classrooms at the *Institute for Global Solutions.* In our program, we believe Werner's sentiment that questions about the future need to be dealt with rather than avoided *(*p. 249).
Internationally there are some rich new studies that involve examples of programs similar to IGS. Stimulated by the UN Declaration of Education for Sustainability (2005-2014) many countries around the world have developed school-based approaches to sustainability. Countries have used different names for these initiatives, such as "green schools" (Sweden), Enviroschools (New Zealand), Eco-Schools (Europe) and so on. In Australia, the initiative was called the Australian Sustainable Schools Initiative (AuSSI). I looked specifically for reports where educational approaches similar to IGS were evaluated and found a few examples.

Henderson and Tilbury (2004) conducted a review of "whole school approaches to sustainability". They identified some key features in the examples that they studied. These features included: whole school participation in planning and action; trans- disciplinary teaching approaches that emphasized critical thinking and active participation; the use of school grounds as an learning environment; and school leadership that placed high value on sustainability by reducing the school's "environmental footprint" (p.346).

In Australia, there are two "movements" that both emphasize transformational educational approaches. A paper by Davis and Cooke (2007) describes these two movements as Health Promoting Schools (HPS) and Sustainability Schools (SS). The authors state that both "use pedagogical approaches that support action-oriented learning for change, build resilience and optimism, and have a focus on the future" (Davis and Cooke, 2007, p.347). These are approaches that resonate with those of IGS and, as such, were helpful for my research. The

paper calls for more links and integration across these two movements, since they both emphasize action-orientation, learning for change, the promotion of optimism and resilience as well as a focus on the future. In the authors' words: "Nevertheless, if society is to rise to the challenges, we need-in both young people and adults-to cultivate the qualities of optimism, critical thinking and competence, and capacity for 'making a difference' that are identified with resilience" (p.347). Certainly, these words resonated with both the goals and perspectives held by our IGS program.

This same paper describes an early evaluation of the Australia Sustainable School Initiative (AuSSI) mentioned earlier. This evaluation (called the *Victoria Sustainable School Pilot Project* - 2004), describes significant benefits to the participating schools as well as the creation of a variety of school-community partnerships. As an example of a school benefit, one school realized a 90% decrease in landfill wastes, with the result that school saved $3400/year. Most encouraging and supportive was the emphasis on the both *transformative* learning and *transdisciplinary* pedagogy. Davis and Cooke suggest in order to address environmental issues and to achieve sustainable futures, it is recognized that, in addition to knowledge and understanding, there needs to be a transformative educational paradigm" (p.350). The paper discusses the need for student-centered learning that engages in real-life challenges that arrive at solutions. Much of the vernacular is similar to that of IGS. The study goes on to suggest, "transformative education challenges the status quo of schooling and implies fundamental reform and innovation" (p. 348) which speaks to the authors' understanding of the challenges of such significant change. Referenced in the article is Stephen Sterling, the author of *Sustainable Education* (2001), who considers transdisciplinary learning to be education "that is at once between disciplines, across disciplines and beyond all disciplines-to help humans and human systems work with and within Earth's ecological systems, and a 'create/critique' education, oriented towards community, capacity building and creativity" (p.348). Although there are subtle differences between interdisciplinary and transdisciplinary education, the research recognizes that, at least from an education standpoint, transformative and societal change require a

fundamental shift in how we educate our young people and the role that teachers, indeed all adults, must play in changes of this magnitude.

The word *transformative* and the practice of *transformative learning* has a rich educational/theoretical history. Influenced by Paulo Friere and solidified by Mezirow's extensive work beginning with his thoughts on personal transformation through 10 phases (Kitchenham, 2008, p. 105), the theory has been exceptionally helpful to my understanding of the kind of changes I've witnessed in my 22 years of teaching. It is Kitchenham's (2006) definition that I find most helpful: 'Through examination of our actions and assumptions, including why they may occur, the transformative learning process allows for subjective and objective reframing of one's worldview" (p. 2). Among the most powerful inspirational experiences a teacher can have is a student or a parent mentioning that their experience in a course or program has "changed their life" or caused them to find a direction particularly if that involves study, work or volunteering in a way that makes them feel they are making a positive difference. In Friere's words, "they develop the critical consciousness which would result from their intervention in the world as transformers of that world" (Freire, 1970, p. 60). Believing that our students can and have become *transformers of the world* is powerful indeed.

Most of the references to "Education for Sustainability" examples come from high-income countries. So I was pleased to discover an interesting and important evaluation study from Bangladesh. This is a low-income country that since 2007 has ranked highest on the risk index in the analysis of the International Panel on Climate Change (IPCC). It is estimated that 36 million people in the coastal regions of Bangladesh are directly affected by climate change. It is also obvious that children are a sub-group of the population that are highly at risk.

A recent study was done in Bangladesh based on the assumption that "schools must hold the capacity for curriculum development to enhance adaptability to climate change so that children are familiar with the concept and practices associated with the advocated changes" (Kabir, Brahman and Smith, 2015). In Bangladesh, the National Curriculum and Textbook Board developed a manual on climate change, adapted from materials from the World Health

Organization. The manual called: "*Climate Change and Health Protection*" was produced in the local language (Bangia) so that it was easy for students, teachers and families to understand. This manual was endorsed by the Ministry of Education and distributed as supplementary reading to high school students (from classes six to ten). The manual has seven chapters, the last of which outlines a 3- day plan for teaching about climate change and health adaptation.

In the described research study, the manual was tested in a "cluster randomized trial", the goal of which was to determine the level of students' knowledge about climate change. The study was conducted in the coastal zones of Bangladesh that were judged to be most vulnerable for climate change and weather events. Schools were randomized to intervention and control groups, each involving about 30 schools and 1500 children. Various pre-study measures were used to verify that schools and students were similar in the two groups. The "intervention group" received training using the manual as a guide, while the "control group" received a leaflet about climate change. A post-test conducted about 6-months after the intervention demonstrated that students in the intervention group had an 18% higher score on a knowledge test about climate change.

In the discussion section of the paper, it was interesting to read that this research group had looked at various systematic reviews (for example, by Hess et al., 2014) but did not find any climate-change related, school-based interventions in these systematic reviews. The research group concluded that they could not find any published studies similar to theirs.

I challenged myself to explore "how and why persons, organizations, communities or nations experience and respond to events, challenges, or problematic situations" (Corbin & Holt, 2011). In the case of IGS, the age-old adage, *think globally and act locally,* applies perfectly. Aside from the obvious implications for acting on problems, from a research perspective acting locally suggests that part of the answer to big global problems is to ask: how do I personally act to make a difference? Then, as the consciousness, that includes personal responsibility, moves globally, the question becomes: how do I act as a member of a community, a nation, or as part of the planet? Looking at how people respond to these global challenges is part of a solutions-

based approach both from the standpoint of mistakes made and solutions achieved. Clarke (2005) suggests that according to symbolic interactionism, „…persons act/interact/generate emotion based on their experience and the meaning that they give to significant events that occur in their lives" (p. 113). The exploration of how meaningful a program like the *Institute for Global Solutions* has been in creating a transformative experience is intended to inform both this program and others like it.

Kurt Lewin and his work on *Quasi-Stable Equilibrium* (1947) have contributed to my understanding of how change in society is likely to come. Both Lewin's model of the cyclical process of action research, and his profound ideas on how promoting change in a system is likely to encounter resistance, have contributed to my understanding. Understanding that the equilibrium could more easily be moved if one could remove restraining forces since there were usually already driving forces in the system" (Schein *quoting Lewin,* p.1) is a crucial insight when promoting educational change. Certainly, in my teaching journey, I have run into and continue to run into "forces" that resist change.

Here, my studies in ecological psychology have been extremely helpful, including work by Lertzman's (2008). If we're to accept, as I do, Lertzman contention that if feelings of concern that arise from the sense of loss and anxiety about environmental destruction don't go anywhere, but remain and get channeled into a form of expression we don't recognize as action, then the challenge becomes locating these emotions, recognizing them for what they are, and helping students deal with that anxiety. "People heal and make change when they feel supported, understood and challenged (Lertzman, 2008, p. 2). Certainly, these are three words that we should subscribe to as educators of young people trying to understand how to be problem solvers.

Wolff-Michael Roth's work on *place-based* education has been very instructive. His study "On Activism and Teaching" (2009) has become a real source of inspiration: "teaching knowledge independent of big projects and orientations that characterize make no sense" (p.44). There are powerful lessons in Roth's work regarding the value of empowering young people through the educational journey. Roth makes a strong case pointing out that even

the way we ask questions can help or hinder students. He points to the contrast between asking them about knowledgeabilities that expand the room to maneuver and levels of control that the learners have in and over their environment" (p.44) or simply seeking knowledge assessment and thereby perpetuating a system we know will not help our students take on the challenges of the times.

There is great deal of literature on the issue of 'safety' and the balance needed to create an open atmosphere where differences can be aired without shutting down dissenting views. The achievement of such a balance and is importance was referenced by one of the interviewees and is a key to successful learning: “For learning to occur when class material is controversial, both safety and tension need to exist. There needs to be a safe classroom environment, so that students sense they can speak their minds" (Griffin, quoted in *Creating a Safe and Engaging Classroom Climate,* p.1). Pat Griffin defines students moving out of their comfort zone as "our learning edge. They can expand understanding, take in new perspectives and stretch their awareness" (Griffin, 1997, p. 62). Bryan Harris suggests that "Effective meaningful conversations can be difficult" and that "students need to be aware that they will likely experience a range of emotions during conversations and that those reactions are normal, healthy and expected" (Harris, 2011, p.81). He goes on to explain that the "objective is to exchange ideas, learn from and appreciate each other" (Harris, 2011, p.81). Engaging and powerful conversations have become an essential part of learning in my classroom and it is especially important, given the powerful nature of those conversations, that creating a safe environment be achieved to allow for student learning.

Works that inform the interdisciplinary nature of my approach in my teaching include Andrew Weaver's *Keeping Our Cool: Canada in a Warming World* (2008) and his recognition that addressing our current climate challenges "will take political leadership as well as behavioral and technological change on a scale the world has never seen" (p. 110). Weaver's ability to clarify scientific approaches so as to alleviate confusion, particularly where confusion has been purposely wrought has been crucial in informing the institute's interdisciplinary approach to

problem solving. His *Generation Us* (2011) is a wonderfully readable book for adolescents. He ends with this inspirational charge: “It's time to recognize global warming for what it is: the most self-empowering issue we will ever face. Every consumer of energy is part of the problem. Every person is therefore part of the solution" (p. 116). Weaver's message is plain, his logic is accessible and his optimism supported.

On economics I have turned to *Deep Economy* by Bill McKibben (2007) many times in my classes: "Community engagement - an unwillingness to embrace the individualism that often comes with modernity and a desire, instead, to build from solidarity with your neighbors - can work ... " (p. 214). McKibben presents real world examples of what a more community-based and sustainable economy can look like as well as a realistic vision of how economics can *work for people* on a much larger scale. I have often turned to our national treasure David Suzuki, and most recently his book *More Good News: Real Solutions* to *the Global Eco-Crisis* (2010). This work is helpful in identifying real world "examples of the changes the world needed and to outline real sustainability criteria: principles that people could follow to devise and recognize solutions to environmental problems" (p. 3). Helping students understand solutions that make sense is a key part of our curriculum.

And finally, Malcolm Gladwell's *Tipping Point* (2000) and recently his *David and Goliath* (2013) have provided guidance at re-framing the question to help inspire and empower my students: „ ... because the act of facing overwhelming odds produces greatness and beauty ... it can open doors and create opportunities to educate and enlighten and make possible what otherwise have seemed unthinkable" (Gladwell, 2013, p. 6).

In reviewing current literature, I looked for pedagogical underpinnings that focused on how to make these approaches work given challenges of time and the constant stress of *completing curricula.* This is not to say that there isn't a great deal of helpful research to draw from regarding the idea of problem-based learning (PBL) and inquiry-based learning. For example, Mooney (2002) notes the success of an "adventure-driven" outreach program of inquiry-based and open-ended activities for middle school students (grades 5 through 9) and that it

"successfully improved mathematics and science content knowledge" (p.309). Savery (2006) further points out that problem-based learning found its origins in McMaster University's Health Science's curricula (p.9) 30 years ago but has since found its way into elementary, middle and high schools, universities, and professional schools (Savery quoting Torp & Sage, 2002, p.ll). Hmelo- Silver (2004) described PBL as an instructional method in which students learn through facilitated problem solving that centers on a complex problem that does not have a single correct answer" (p. 235). Certainly, the kind of challenges we explore with our students in the *Institute for Global Solutions* fit Hmelo-Silver's description. In fact, we try to facilitate a multitude of interdisciplinary "correct answers" and combination of answers. Hmelo-Silver further notes that "students work in collaborative groups to identify what they need to learn in order to solve a problem" (p. 236). Our students often work in such configurations sharing out the results of their collaborative inquiry and problem solving.

The education staff at Apple Inc. have coined the term Challenge-Based Education based on PBL. In their concept paper introducing challenge-based education, they suggest it "applies what is known about the emerging learning styles of high school students and leverages the powerful new technologies that provide opportunities to learn through an authentic process that challenges students to solve problems and make a difference" (p.1). Each of these approaches is a derivation of John Dewey's work and we have employed them separately, at times, or as a combination at the *Institute for Global Solutions* [see Box 1].

Box 1

In an effort to *leverage the use of 21st century technology and innovated evaluative techniques, we have been able* to *harness our students' native technological literacy. For example, following a recent (2015) eleven-day train trip* to *Ottawa that we called "Rails* to *Relevance", our students, in small, collaborative groups, created documentaries based on questions of Canadian citizenship.*

The questions were:
1/ What does it mean to *be a Canadian citizen?*
2/ What is Canada's responsibility to *the world?*

These documentaries were later shared with our community in a 'film-festival'. Making a difference, although almost cliché, is a phrase often drawn upon at IGS. Helping to *create a learning community for what I call resilient problem-solvers is an important goal for me. Another is* to *have young people gain an appreciation for their potential role in Canadian society after having been exposed* to *inspirational examples of leadership ranging from the political realm* to *members of community. Empowering young people* to *search for solutions* to *the big challenges in their society and guide their own learning is a powerful part and intention of each of the pedagogies discussed above.*

There is certainly room in the discussion about approaches to teaching these global and ecological challenges in public schools relative to the attention given to other topics, and also to explore work which foregrounds the *study* of secondary school preparation. It is this gap this study was designed to address.

Many pedagogical questions arise from the sort of approaches I've taken. Paul Wapner, a professor of environmental politics at the University of Washington, spoke in an interview (Warren *quoting Wapner*, 2013, p.1) to the same questions that have arisen in my work in the *Institute for Global Solutions*. Wapner notes the kind of reaction his students had to the pain one goes through when learning about climate change: *IIA* few students would get fired into action. But by far, the majority would just be overwhelmed at the magnitude of the problem. There's an assumption among many environmentalists that the best form of education is to scare people into interest and concern" (Warren *quoting Wapner*, 2013, p.1). Wapner goes on to say that often the opposite happens leading ultimately to cynicism. This is precisely what a solutions-based approach tries to avoid. By emphasizing how much promising work is happening and by involving

the students in practical solutions, it is hoped that this kind of helplessness can be avoided. Indeed, we've had many powerful discussions where vocalizing concerns and acknowledging solutions have helped students move from hopelessness to hopefulness. This is consistent with Wapner's continued research where he notes the effect [of discussion and sharing] was cathartic for some, and indeed there is much new research coming out these days about how the simple act of illuminating one's murky emotional interior can reduce distress" (Warren, 2013, p.2). We have a rule in creating our classroom environment where we will always find time to explore the important, and often difficult, questions generated by our students.

There is an increasing body of work that supports many of the principles that are pivotal to IGS as educators, and researchers, continue to understand the close relationship between taking on the challenges that the world faces with the need for changes in how we educate our young people. It is encouraging, at the least, to be a part of the research that suggests the challenges in both arenas are being met.

Chapter Three: Methodology and Assumptions

I drew upon several different research methodologies, as I believe this approach best complemented the answers I sought. Action/participatory research was the most natural place to start for me as a practicing secondary school teacher. As mentioned, eight years ago I wrote a program called Global Studies at Claremont Secondary School and have had the opportunity to adapt the program to the changing needs of my students as well as to react to what has worked and what hasn't.

> From the perspective of action research, the best way to think about practice is the way you carry out your professional actions. This is, of course, what you do, but it is also why you think you should be doing things the way you do. You will hear of the 'theory-practice divide'; action research as an approach cuts across this divide, encouraging a practitioner to consider both aspects as part of a single whole (Walters-Adams, 2006, p.1).

Noffke and Somekh (2011) suggest that action/participatory methodology "is research *from inside* that [social] setting and is carried out by the participants themselves or researchers working in collaboration with them"(p. 94) and further that it "transcends distinctions between researcher and subject"(p. 94). I have often said to my students that many of the answers to the big challenges of our time may lie with them and that it is my job to support them and to teach them in a way that fosters solutions. This kind of research allows me that opportunity.

Taking on this form of research proved a wonderful opportunity to continue to work with my students while "developing self-knowledge and understanding of [my] own practice" (p.96). And to be honest, I wouldn't have it any other way. Teaching this program has been the most rewarding teaching experience of my life and I have always asked for extensive input from my students as they exited the program in grade 12.

Those original course evaluations were based on the following questions:

1. What did you learn from this course?

2. What would you have done differently if you were given the opportunity to take the course again?

3. What would you recommend the course do differently to help change it for the better?

4. What do you think you'll do as you leave high school that will be affected by your participation in this course?

I used the course evaluations as a recruitment tool to help choose the interviewees (please see below) but also used them as prompts during the interview process to help the interviewees recall and reflect upon their experiences.

It was the third question that I anticipated would be the most instructive and which I thought would warrant the greatest focus. The last question was also helpful in determining how the course affected former students in their life choices and therefore the content choices for future curricular development. The students signed their forms, so they were not anonymous and I have kept the most informative ones, and typically the most critical, since I first began the process in 2006. These course evaluations were completed between the years of 2008 and 2014. I looked for responses that were honest, critical and in depth. Participants were selected who were deemed most likely to inform the research questions and "enhance the understanding of the phenomena under study" (Sargeant, 2012, p.1). Further, subjects sought were those considered able to inform the important facets and perspectives related to the delivery of a global solutions model to senior secondary students. The following were also taken into consideration:

1. Gender diversity;
2. Ethnic diversity (with consideration to the participation of international students).
3. A balance of participants who participated in each incarnation of program delivery (Global Studies and the Institute for Global Solutions);
4. Participants whose post-secondary/career/volunteer choices after secondary school appeared to have been influenced by their participation in the program as well as those who choices were not directly affected based on contact with former students and their families or friends.

Once a sampling of participants was selected based on their evaluative responses, these were passed on for further selection to a colleague who independently looked at the forty-two evaluations, now anonymous except for the designation of male or female, international or Canadian, whether the former students were from the Global Studies program or from the *Institute for Global Solutions*. I then asked him to further analyze the evaluations to narrow the field down to eight that reflected this diversity of views. It is important to note that I selected a colleague for this task who is currently completing an Interdisciplinary PhD in Social Psychology and is uniquely familiar with the Institute, the kind of teaching it represents and the phenomena being explored in my study. In the end, four males and four females, equally representing the two programs, were asked to participate in the interviews.

After the participants were selected, a letter of informed consent was electronically mailed which provided more detail on the nature, scope and purpose of the research (Appendix B).

I used a video camera during the interview experience. My rationale here was twofold. Capturing the interviews on video allows for repeated examination of the data. Using video data is considered to render more consistent results than does interviewing in real time where selective attention and recall can become limiting factors (Bloor & Wood, 2006). Secondly, use of a video recording allowed me to capture the subtleties that may have been missed by standard observation alone, including gestures and postures. Despite all of the positive aspects of video recording I had to consider the temptation for interviewees to want to "perform" in the presence of a video camera. I minimized this by creating a setting where the interviewee engaged in telling their story and where the video camera used was unobtrusive. Cellular phone technology is such that a quality video recording can be made with little evidence of a recording device present. In fact, I observed that, after the initial positioning of the cell phone, most subjects seemed to forget it was even there as was evidenced by them moving their faces outside the frame at times. I also recorded the interviews in a location of the subject's choosing. Two of the alumni were not in the Victoria area as they were at universities in Toronto and Montreal. I undertook Skype ™

interviews. By doing so I was able to respond to each answer to each question as I would in the other interviews. Unfortunately, I had a technology breakdown with the recording of one of the Skype ™ interviews (Victoria) but had used the dictation software Dragon ™. Although I found the dictation exceptionally inaccurate for the most part, it did clearly record the bulk of the aforementioned interview.

It was my intention to analyze the video reflection data using the qualitative software nVivo™. This software uses sophisticated filters and coding techniques, which simplify the coding process. However, after discussion with a number of doctoral candidates about the ineffectiveness of such technology and after having listened to the interviews over and over again, I chose instead to let the themes identify themselves through that process alone. Although many of the themes were not consistent with what I had imagined they would be, they were clear enough that I felt confident with their evident nature. To ensure that I had independent confirmation of the identified themes, I asked the same doctoral candidate previously cited to listen to the interviews. He also arrived at the same conclusions I had.

The questions I used during the interview process included the following:

1. Do you feel your experience in global studies in high school affected the way you look at the world? If so, can you comment on how?

2. In our program, there's been an attempt to balance the presentation of, sometimes, difficult information with engagement in action designed to contribute directly to a solution. Do you feel this balance was effective? What impact did it have on you?

3. What would you change if you could? What do you think you'd do if you had the opportunity to create a transformative global oriented program for young people?

4. Do you feel, as a result of your experiences in the course, you have a more positive feeling about the things that can be done in the world? If so, can you elaborate on why this is so?

And for interdisciplinary Institute for Global Solutions alumni:

5. Do you think learning in a way that attempted to foster interdisciplinary thinking/problem-based learning and project-based implementation helped prepare you to become a more effective problem solver? If so, please comment on what you found useful/helpful. If not, please comment on why not.

The central idea in this case is a solutions-based approach to global challenges, which, as noted in the literature review, yields a myriad of different pedagogical approaches. When trying to define a solutions-based approach, Dr. Wayne Hammond's work on *strength-based* orientations was most helpful in explaining that it "allows one to see opportunities, hope and solutions rather than just problems and hopelessness" (Hammond, 2010, p.4). Our approach at the *Institute for Global Solutions* is to arrive at solutions regardless of whether learning involves discussion, lessons, group work, guest speakers or field study. We don't find this problematic because we fundamentally believe that there are solutions for all of the big challenges in which we engage our students. And our goal is not only to arrive at solutions but also to engage in them. Both groups of participants would have experienced the visits to our local organic farm and worked with scientists in the adjacent watershed restoration project. These weekly visits combine community involvement and address a variety of problems including environmental (soil) degradation, climate changes, health, chemicals in our environment, watershed management, species extinction and a host of other challenges. That means that every week our students *participate* in the very solutions they are coming to understand.

I felt my research questions were purposefully open enough to "discover relevant variables in the data" (Corbin & Holt, 2011). I had to develop appropriate *coding* around categories and themes that arose as a result of the interviews. By working with not only more recent alumni but with those who have graduated years before, I was able to make comparisons that helped to identify conceptual similarities. "Action just doesn't occur, it occurs in response to something" (Corbin & Holt, 2011, p. 79). The "something" in this case is a tradition of listening to helpful students and their input, then trying to apply it to our evolving program.

During the interview process, I drew on the collaborative nature of narrative research that

"encourages a 'flow' in the interview with minimal interrogation" (Gill & Goodson, 2011, p. 160). I believe this helped me to reduce the impact I had as an action researcher by handing the control back to the interviewees by letting them guide their stories. This approach also supported the exploration into participants' learning experiences in the program, specifically by inviting affective responses.

What I engaged in next was a qualitative thematic analysis of the interview data. This meant watching (or listening to) the data over and over again in order to tease out and identify the themes. During the initial analysis, I tried not to listen for specific themes instead opting to hear the stories of each interviewee as they described their relationship to their respective course/program. After the first couple of passes through each of the eight interviews, I listened more specifically for how the course/program affected them, both their recollections of the time they were in the class and then how it continued to affect them at the time of their interview. Finally, in subsequent times through the data I began to be able to identify specific themes that occurred across the data. To achieve an understanding of how the separate themes differed from one another, I used four different coloured highlighters to achieve a sense of when there were shared themes and when interviewees had experiences that differed from one another.

I have had my eyes opened to the special features of qualitative research and its continuing journey to try to embrace and inform the complexity of the human experience. Instead, of trying to reduce human society's experiences and phenomenon to quantitative numbers, it seeks to expand the possibility of research, and through research, understanding. My research was firmly grounded in action/participatory methodology. In fact, upon guided reflection, I feel that as a teacher for twenty-two years, I have already been engaged in this type of research. But now, through research diaries, photographs, film and reflection I have an understanding of the many ways to record phenomena to further inform my teaching and development of curriculum. But I will not just be limited to being a participatory researcher. The reader will note the number of references to “the journey” and my to *listening to stories*. I consider these narrative methods, as mentioned, that also informed my research. I have already learned, from my limited experience in

interviewing, that enabling research participants to tell their stories with little interference can enlighten phenomena previously unconsidered when beginning the process.

Finally, I truly believe that my research engaged the lofty goal of the betterment of society. It is my most sincere hope that through a greater understanding of qualitative research and more experience in its, often collaborative, methodology that my work can satisfy gaps in the research around working with young people and finding the balance between promoting honest engagement with the big challenges of the world and a solutions-based search for hope.

Researcher's Assumptions

The journey has produced an amazing opportunity to craft, receive and adapt input from other professionals, co-workers and especially students and alumni. It has been pointed out to me that my teaching inhabits a social-constructivist orientation towards learning and I assume a reformist/activist stance as an educator. My studies have led me to believe that that is true. Students who have experienced this kind of program or teaching situation are appropriately positioned to provide an informed opinion about its value and its impact. Hannan suggests that "[student interviews] are widely used because they are a means of both obtaining information and gaining insights" (Hannan, 2007, p.1). Woodward and Ferrier (1982) also used graduates to ascertain the effectiveness of McMaster Medical School's program. The study employed interview questions about the nature of the program's problem-based learning design: "Five questions were developed to probe the graduates' response to the three year length of the program" (p. 295).

The interviewees in this study were drawn from both the Global Studies course and the Institute for Global Solutions as both evolved. They are representative of varied learning styles, differing lived experiences and they have each gone on to very different subsequent experiences from one another. Woods suggests, "if we are seeking to represent a group in our findings, we should ensure that we have sampled across that group according to some appropriate criteria, such as age, gender, ethnicity, experience" (Woods, 2006, p.3). As suggested in the section on methodology, even though the sample was a very small one, every attempt was made to ensure this goal was achieved.

Chapter 4: Research Findings

Research Question:
What impact has Global Studies/Global Solutions had on students who have taken it and what will they do with the skills that they have acquired?

4a Interviewing Sierra

"My experience in Global Studies completely flipped my world upside- down in the best way possible. I never realized that I cared that much about the world and people around me."

--Sierra

At the end of the first week of Global Studies 11, I noticed that a short red-haired girl named Sierra was hanging around as everyone left. It was clear she had something to say. What she said hints at the first theme that has arisen in my research: transformation. She admitted that if it weren't for Global Studies 11, she was going to leave Claremont high school that week. Sierra realized she was gay early on in high school. In Global Studies 11, Sierra had found a place where she was accepted and able to share her ideas on matters that were important. It transformed how she saw the world and how she saw her own learning. This is a theme that is consistent across my research. Every participant spoke about how their worldview had changed as a result of their participation in the course. I will enjoin other's thoughts as we go through the research and hear their stories.

The end result of the parents' request at the "Meet the Teacher" night was Global Studies 12. Designed to provide the opportunity to do something about the challenges they'd learned about in the grade 11 version of the course, Global Studies 12 allowed students to essentially become "project managers". They were to pick one of the challenges they were most passionate about and design a project that would help do something about it. The initial formula was knowledge (Global Studies 11) then action (Global Studies) 12. Sierra's passion was the issue of child soldiers. In her first year we had watched the documentary *Invisible Children* that spawned a movement then a NGO (non governmental organization) by that same name. It was a very

powerful movie and she sent an email during the summer describing that she wanted to show it to other students in the following year. I replied that we might be able to share it at lunch perhaps but it was unlikely that we were going to be able to show it to other classes. This marks one of the many times a student had more faith in people than me. I was wrong. In one day Sierra's group of four shared the documentary with 750 students in our school's theatre over three different blocks. Nearly 75% of the student body watched that film and I swear that my high school changed that day.

The Interview

When Sierra was asked whether she felt the effort to *balance the presentation of sometimes difficult information with engagement in action designed* to *contribute directly* to *a solution* was effective, she replied,

> I felt that the balance was effective once I was in Global Studies 12 but until then I struggled with focusing on what was wrong or what wasn't working ... when we started working on projects to make the world a better place then the balance was effective. Then I felt like everything we learned about I could see in a more positive light.

This is the second theme that arose particularly among those participants who were among the Global Studies interviewees as opposed to the four former members of the IGS group. It's my experience that balance comes when difficult concepts are followed up with the opportunity to participate in solutions and action.

A largely unexpected theme that arose from the research was just how powerfully young people are affected by collaboration. Sierra described herself as a very introverted person: "I am a very introverted leader and I feel like I'm not the only person in school who is like that" (Sierra, p.1). Her plan was to take on a project highlighting the issue of child soldiers as a solo project. When I asked her to work with three other kids who were less motivated than she was, but who resonated with the issue of child soldiers, she resisted "… but very, very quickly I realized that this was something that was going to work and that I can't do it on my own especially with the content of what we're taking on" (Sierra, p.1). During my interview she admitted just how

important it was to *make* students work together as a group. She even went as far as to say that even if a student wants to work alone, they should be made to be a part of a group. “You never know how valuable other people are until you work with them". Sierra's group, to this day is one of the most powerful groups that we ever had. They shared the film and the issue with other schools, contacting principals and setting up assemblies. They even hosted an overnight "famine" event to raise money for *World Vision.*

Sierra went from an introverted girl who was ready to leave her high school to one who chose university and a program at Capilano called *Global Stewardship.* She credits her journey in Global Studies for being a part of that: "Definitely because of the Global Studies program which therefore pushed me to go to university and being in university learning in an interdisciplinary way I learned that there's lots of ways I can make the world a better place" (Sierra, p.2). She is now in UBC's Faculty of Education preparing to be a teacher.

She finished our interview by concluding that she did have a more positive outlook, one of the reoccurring themes, on the world's biggest challenges, a third theme that is consistent across all eight interview subjects. Then she replied that, although she didn't feel she could "save the world by herself" (Sierra, p.2), she has come to understand that there are good people out there working together to make a difference and that she knew that, in her own journey, she was a part of that. I am confident Sierra will continue to make a difference as a teacher as will the subject of our next story: Victoria.

4b Top Twenty Under Twenty

> “ … to organize an event to positively impact our global community from the get go, [shows] your teachers have faith in you as students and [that you] have the skills and critical thinking to be able to address these issues - [it was] trust and responsibility and to me that was foreign as a 16 or 17 year old student. That was very empowering."
>
> -- Victoria

Victoria is the first daughter of a nationally renowned professor at the University of Victoria. In the interest of refusing to accept undue credit for her success, I think it's important to

note that Victoria was already having poetry published in grade 9. *Hilfinger High* was Victoria's reaction to students in her upper middle-class school paying more attention to what they wore than to the students who sat alone on the floor at lunchtime.

It is also worth noting at this time that just before Victoria's grade 9 year, then Minister of Education Christy Clark introduced a measure that effectively reduced emphasis on "catchment schools" (attending only schools in whose catchment area you live, sometimes called neighborhood schools) and removed barriers to parents which enabled them to choose whatever school they thought best. Since that time, high schools in particular, have essentially been competing with one another for students. My reasons for stating this phenomenon are twofold:

1/ The *Institute for Global Solutions* which, depending on your definition, is B.C.'s first "academic institute", benefits from the policy both in terms of the administrative support early on and more recently from students who are increasingly *choosing* IGS and therefore Claremont. I will explore this phenomenon in a further chapter.

2/ Claremont still benefits from both its location in an upper middle class neighborhood and from its reputation for academic excellence that, at least in part, is a product of its location. In 2015, Claremont is one of a few schools that is essentially *winning* the competition for students. The result is that, although we still have many students who, like Victoria, have strong familial academic support and tradition, there are increasingly more and more students who represent diverse economic and social backgrounds among our student population. I assert that this kind of diversity furthers supports the case for the learning methodology employed by IGS. If the design of IGS is to be scalable, it needs to be able to address the learning needs not just those, like Victoria, who have support and natural academic gifts but for the personalized needs of any number of students in a given community, especially as those communities become more diverse attracting a variety of learners. It is also a more powerful design if it can be adapted to any community.

The Interview

Victoria had a rare gift among students her age: the ability to lead her peers. High school is a world where fitting in and being accepted reigns supreme. It is therefore very difficult to risk alienating oneself by asking your peers to "step up" on any given project. Victoria was only in grade 10 when she took the first Global Studies 11 ever. Remarkably bright and with an ability to ask piercing and important questions, Victoria echoes and expands on one of the themes that Sierra had commented on: the empowering nature of group work and collaboration: "You know there are people who are interested and engaged and want to see you succeed" (Victoria, p.1). Despite her remarkably natural project management skills, she identifies how the power of the group enhanced her experience. She describes when one other student "said I'm really good [at] social media and another at putting together graphics on the computer and [can] help in this way and there's always people coming with different skill sets that you don't think individually you have" (Victoria, p.1). Neither of these areas were ones in which Victoria felt particularly strong. Victoria's event, which she took on for the first time as a grade 11 student in Global Studies 12, is the *"cc350"* ('cc' is short for "climate change" and 350 refers to the number of parts per million carbon atoms in the atmosphere many scientists suggest we need to return to).

The event, designed originally by Victoria and another student who was in grade 12 at the time, was meant to raise money to help students support climate change initiatives. In Victoria's grade 11 year the event had a powerful start attracting many kids from the school as well as some teachers who all tore around the school track in teams to accomplish 350 laps. Each team is charged an entry fee and was able to go to the community to raise that money and more through sponsorship. Although the event went very well, what happened the next year, when Victoria returned for grade 12 year as a "mentor" (or teacher's assistant), is nothing short of remarkable. (Please see the "Power of Youth" below.)

Victoria's contribution to the research speaks to two of the tenets of IGS both identified in the literature review: *problem-based learning,* where knowledge and skills of the group will always be more than those of anyone individual, and *project-based learning* where students come to

understand important concepts and competencies while working through a project. She also made an observation that spoke directly to the question we'd hoped to address when designing the *Institute for Global Solutions* regarding the balance between *lithe* presentation of sometimes difficult information with engagement in action designed to contribute directly to solution" (Interview Questions, Appendix 2). In Victoria's own words, "a big problem is so much smaller and local, I think, which is interesting to me ... and I think if you present a problem [that's] difficult as well and as laying out different actions [that] students can get involved in, [it] increases expectations that there are concrete ways that you can do something about it" (Victoria, p.1). Of the representatives of the original Global Studies l1/Global Studies 12 design, most participants spoke to the success of the gaining knowledge component in grade 11 followed by having the opportunity to take action in grade 12. Although they were presented very difficult and pressing problems in Global Studies 11, the ability to engage in project work in Global Studies 12, designed mostly by the students themselves and chosen based on the passion each student had for a given problem, was seen as a successful way to foster hope. "The way the course was structured implies a level of responsibility and trust granted to the students that I found empowering" (Victoria, p. 2). A phenomenon that was not directly addressed by the interview question but that should engender hope among the adult population is the power that young people have, as evident in the following account, to help society solve problems by negotiating around barriers.

In Victoria's words,

> *"…*the same program questions and has solutions and that could be really interesting and open up a dialogue with people who already have the same age group and like-kind of perspective of mind. [At] 17 you are given a level of trust and responsibility to be able to take on a project and you're getting all this ... you have to take your own initiative I think that is transformative in itself ... [it] is saying we are giving you the opportunity to win this time.

At the end of her grade 12 year, Victoria received a $10,000 scholarship as she was considered to be one of Canada's “Top 20 Under 20" young people. She was sent to Toronto to receive the cheque at an award ceremony. In April, she will graduate from McGill University in political science and environmental studies. Her professor father suggests this was not her plan

before global studies. She's started environmental law at the University of Victoria in the fall of 2015. Transformative, indeed.

The Power of Youth

Victoria had it in her head that we needed to get solar panels on the roof of our school. The thought came originally from two other students who had put together a group they called *Teenagers Against Climate Change.* In her grade 11 year, we were told by our then-District Facilities Manager that *"No",* we could not have solar panels on our school and part of that was because "Victoria did not get enough sun". I have not included the manager's name but suffice to say that, as a teacher in an institution dedicated to helping young people learn, I could not see how *anyone* person could make a decision that my students *knew* wasn't based on evidence. I, however, was not angry enough to follow through. Fortunately for me, Victoria was.

Over the summer Victoria considered this impasse. In her grade 12 year she decided she would not accept *"No"* for an answer. After running it by her teacher, she called a meeting with the superintendent, her teacher (me) and a small group of her classmates. After convincing them that moving ahead was the right thing to do and that she and her team would find a way to fundraise for the entire amount of the panels and their installation, she called another meeting with the District Facilities Manager and our principal. Before the meeting, Victoria did a considerable amount of research on photovoltaic solar panels so that she knew what she was talking about. By the time the meeting had ended, the facilities manager was willing to *let* her apply for a Solar B.C. grant worth $20,000 and one of only eleven available for the whole province.

Victoria put a team together of 4 or 5 grade 11 students and wrote that grant application after school. I wrote one page that had to be submitted by an educator explaining the education plan for solar learning that would occur should the grant be awarded. An hour after all the kids had left for Christmas break, Victoria received an email from the facilities manager saying she was "allowed" to send the grant application off. There are all kinds of philosophical implications about an adult having to give an energetic and intelligent teenager permission to put a 21st century energy system on a building she is about to leave forever, so

that a district can save money for the foreseeable future, but that is another thesis outside of the purview of this one.

Two months later, Victoria received word that she had received that $20,000 grant. That same week, that same energy manager, who, as fate would have it, had applied for the same grant for another school, was turned down. Two months after that Victoria ran the most successful one-day fundraiser in the program's history, raising $10,000 in one day at the cc350 II. The community support was remarkable. Two weeks after that, she received an additional $5000 from B.C. Hydro as they were so impressed at what a bunch of 17 year-olds were able to achieve. Today, in an era of less and less money for public schools, Claremont Secondary School has fifteen solar panels on top of their roof sucking in free energy from the sun.

This example speaks to the power of youth and supports a phenomenon that is suggested in the introduction of this paper but was not specifically addressed in the interview questions: that if we enable youth to take on the world's most pressing problems, it is precisely their youth, their unwillingness to accept adult rationalization for *not* solving problems even when the answer seems clear, that they may in fact lead us.

4c First Nations Leader

"The key distinguishing factors were the content and the way in which it was taught. The content being incredibly relevant to issues I saw in my community and issues that concerned me as a global citizen. "

--Terrance

Terrance is the descendant of a hereditary Tsimsian chief. He will admit that he is also a settler in the area where he now lives, just like most of the students at Claremont; he is not from the territory he now lives in. Although he self-identifies as an aboriginal person, his understanding of his place in his community is so nuanced that he can intimate the difference between being a Tsimsian person, and therefore a B.C. First Nations person, but not actually being from Lekwungan territory, and therefore a settler. In the interest of being up front, that I had

the opportunity to interview Terrance was a real blessing. To listen to him speak is like listening to an elder with a Ph.D. trapped in the body of a 6'4" 23 year old. Of the many interviews I had the chance to conduct, I learned the most from Terrance both because of his ability to understand and express the impact that Global Studies has had on him and because of the suggestions he had for what he would do. Whereas the others interviewed were either almost entirely content with their experiences and couldn't think of how they would change them or recognized, given their understanding from younger friends or siblings, that the *Institute for Global Solutions* had made changes they would have liked to have seen addressed, Terrance had real suggestions.

Terrance's unique understanding of his heritage and Canada's complicated relationship with our own indigenous peoples and what it might take to move forward provided me an amazing gift to understand changes that, as a white man from a non-native experience, I would not otherwise have been able to intimate.

The Interview

Firstly, Terrance explains better than I think I have, why senior secondary school is precisely the right time for a course, or program that takes on the world's most pressing challenges:

> …it's not the things that are usually covered by other courses and that speak to the interests of a lot of students. I would say at that, at time in my life, I mean it's a formative time in your learning. You're transitioning from a time, maybe your early years in school, into grade 11 and 12 and are these key years where it's going to determine what your life outside of high school looks like.

Terrance is a young man with tremendous parent support and I would add role-modeling, but who also had spent a great deal of time volunteering with *Native Friendship Centers,* so if any 16 year old had spent time thinking about what his life might look like beyond his secondary years, it's him. In the interview, Terrance stated that "a lot of the issues that we learn in the course are ones that really speak to issues that are important in the community, broadly, and are immediate in nature.

They either [are] happening right now and they're in the news and they're really engaging in that respect" (Terrance, p.1). Terrance also attempted to explain why this course was unique relative to other, more traditional courses, where there might be an attempt to bring current relevance to traditional content: "... [they're engaging] in a way that an equivalent course, like History 12, I mean you can connect them I'm sure, but not in the way Global Studies can" (Terrance, p.1). He elaborated the distinction suggesting that "through the breadth of the content in covering, you know, water issues, social justice issue, a really blended content, it's not the things that are usually covered in other courses but yet speak to the interests of a lot of the students" (Terrance, p.1). Finally, in describing the impact of the course, Terrance recounts "... that's part of the inspiring part, right, that you can make simple changes to make profound impacts in the world. That's an incredibly valuable thing to teach students, that they have the power within themselves and within their community to make demonstrable impact and so, and that's unique to the course" (Terrance, p.2).

It is important to note that there are many teacher who do a remarkable job fostering engagement by linking moments in time and drawing their lessons forward into current times, but Terrance's comments speak to the apparent success that this global-oriented course has had in addressing pressing issues that are important to students.

Terrance also goes on to explain that the nature of the class and his classmates and the teacher's ability to facilitate the conversation in a way that makes kids feel safe are the keys. It is particularly true, he emphasizes, when the teacher creates an atmosphere where students feel a sense of safety when controversial issues are being discussed. He mentions specific moments in other social studies classes where similarly difficult content was being discussed but where he did not feel safe

> ... especially as an indigenous student, you don't get that in social studies. I can identify so many aspects in social studies where similarly difficult issues were brought up and the ways in which they were discussed contributed to an atmosphere that was unsafe where things like racism, discrimination, colonialism, those things were left unchallenged by someone in a position of power, the instructor. So I would say the way that you made appropriate interventions and mediated the process was really key.

As an indigenous or First Nations youth, he found that when the misperceptions were taken on in a way that created understanding, as in Global Studies classes, that the learning from conversations became very powerful. "That speaks to a building and engaging atmosphere and makes you want to learn" in Terrance's words. This is a phenomenon that I had only begun to think about, and I was gratified when a colleague mentioned that she'd only ever seen two teachers able to pull off that kind of learning, and included me as one. The responsibility for creating such an atmosphere only appears in my research through Terrance but is a topic referenced in the literature review (p.7) and has been an essential part of our pedagogy in both Global Studies and IGS. Finally, Terrance echoes many of same sentiments that Victoria had touched on which is a consistent theme through my interviews regarding the *Power of Projects.* In his words,

> The project element is really important. It's one thing to learn about these issues, that's a really big thing in the course, is that you engender a sense of responsibility on the students, and so when you engender a sense of responsibility, when you identify that responsibility, there's an expectation to act on that responsibility. There are opportunities within the context of that course to act on that responsibility and doing [some]thing about the issue that you're actually looking at. (Terrance, p.2).

That his experience with Global Studies had such an impact speaks to both the impact it had on him but also to the importance of this time in a young learner's life. It exemplifies that theme of *transformative* changes addressed by all of the participants.

The Power of Conversation

Another theme arose from Terrance's interview that others have alluded to in passing but which he takes on directly is how much open and honest conversation can lead to a student's ability to learn from one another. He remembers that the part of the lesson that was lecture style was "fantastic" but that *lithe* dialogue aspect, the class discussions were really important in that I got to learn from other students. So what other students are thinking about with respect to these issues and it mirrors a broader community dialogue. Right? You get a rich diversity of

perspectives" (Terrance, p.1). This idea of learning through conversation is something that only became obvious to me recently. In fact, there is considerable academic weight to this idea now. Baker, Jensen and Kolb suggest that, "In this process conversation was acknowledged as a legitimate language and an active way to engage in learning" (2002, p. 46). Of the many, many classes I've taught, some of the most powerful ones come from conversations based on powerful questions that the kids generate. "Students need the opportunity to formulate questions and insights as they occur and to test them in conversation with others" (Bouton and Garth, 1983, p.73). They are, in my opinion, guiding their own learning by asking big questions as they try to sort out their worldview and their place in the world.

The first three interviewees each spoke powerfully about their experiences and the balance necessary for an authentic look at the world's most pressing challenges. It is also interesting to note that each of these three went on to very successful academic careers. To find a perspective on the Global Studies from a different voice, I turn to Tom.

4d The Lost Boy

> "Anytime I hear anything about renewable energy, ways to process waste or anything like that I get excited."
>
> --Tom

The "Lost Boys" was a tag applied to a small group of boys who were transitioning between grade 8 and middle school into high school. They qualified for the *Lost Boys* program if they did *poorly* enough in English. My then vice-principal, Mark Fraser, suggested that these boys would benefit from being in front of an adult male teacher for a full year program combining English and Physical Education. His theory was that many of these boys would not be able to sit for the 80 minutes of an English class in high school and if that part of their learning experience could be paired with the ability to get up and move, they might be more successful. I was asked to take them and he was right.

One could be tempted to think that they were nicknamed the "Lost Boys" because they didn't want to grow up. As much as this may have been true, they received this moniker because when they went on their first run in P.E. (which was a circle), 11 of 13 of them got lost. Tom was not one of those who were lost. Tom was not lost. Tom was bored.

What was interesting about the Lost Boys' experience is that through our many battles we became quite close. The boys liked the action, we had fun and the small class size (13 in the first year, 16 in the second) was conducive to a powerful bond ... but they weren't the kind of boys that enjoyed sitting in a desk for a whole class. So when they signed up in significant numbers to join the Global Studies 12 course three years later, it was clear to me that our early tradition of creating project managers and teams to take on the issues we saw as important would have to be adjusted for the Lost Boys.

The Interview

It was a different Tom that I interviewed four years later: "[Anytime I hear anything about renewable energy, ways to process waste or anything like that I get excited. I read something in the newspaper about the latest compost facility and I get sucked in. I don't want to stop learning, continuing to learn about these things"(Tom, Appendix 9, p.1). Tom's interview gave me a different perspective that has become very helpful in my research.

We created the "Green Kindness Team", a hands-on team that would engage in everything from working with our local organic farmers, doing wetlands restoration, and our specialty: removing invasive species. They worked hard, for the most part, but as Tom voices, his experience was different from the other three, even if no less powerful. When asked about the balance between *the presentation of sometimes difficult information with engagement in action designed* to *contribute directly* to *a solution*, Tom was really helpful in identifying what I would call a successful application of *action/participatory* research methodology: a teacher asks four questions (please see p. 2) for student input at the end of a semester from his grade 12's as part of their final (and my) final evaluation, and applied that to further incarnations of a program. Tom

was critical in his experience:

> I think that the balance that was there when I was there still needed to be worked on 'cause it wasn't at its perfect stage, it was still kind of growing but hearing from people that I know that have been in the IGS program now, I feel like it is much more balanced. I feel like there is a better connection between the academic and the going out and engaging ourselves.

What is interesting to me is that Tom's knowledge of the current program comes from his girlfriend's younger brother who is presently enrolled in IGS 12. It makes him unexpectedly qualified to comment on the implementation of changes into the current interdisciplinary model where there are *direct* connections between content and hands- on engagement or field studies. It was a useful addition to the research to have interviewed someone who lived his own incarnation of Global Studies but also was able to comment, through his relationship with a current IGS student, on the evolution of the program and how it has changed. It definitely seems to make a difference" (Tom, p.1) is how Tom put it. Remembering his own experience, he notes, “We would go out and work on the farm or remove invasive species from the wetlands or from that ditch area on the school property and then we would write about it and that seemed to be the only connection between actually going and doing something and that academic part of it" (Tom, p.1). However, when drawing upon his knowledge of the kind of changes that are a part of IGS, he is able to recognize the evolution of the blending between the hands-on work and the academic grounding that now comes with it. As he states: "I've only heard little bits and pieces of IGS now but it definitely seems like it's much more connected ... especially now that you've combined all of those different classes" (Tom, p.1). It was refreshing to hear Tom note the changes and I wondered how much more effective the current incarnation of the program would have been for him.

It is instructive to note that Tom did not go on to post-secondary school as did the previous three participants. Any application of the knowledge and competencies that Tom exhibits is entirely within his regular working life, which at this time is at the *Root Cellar,* an organic food market. During the interview, Tom talked to me about how impressive the design of *Tesla*

automobile was in great detail, “It's amazing that we've come up with a car that runs on four or six batteries and has the kind of power that it does. Have you read into them at all?"(Tom, p.1). He knew far more than I did, despite that I own an electric car and do a considerable amount of research. While Tom has no immediate plans to go to school, the impact of his experience seems no less powerful than that of the three who have had great success there. "Being able to see all of the changes in the world since that course, has really opened everything up. I see it more positively" (Tom, p.2). Tom certainly no longer seems bored. He seems engaged. And if what comes of Tom's experience is an engaged young adult, the result is no less powerful than for those who chose to pursue an academic career. In his words, “Ya, I have a much more positive feeling about things that can be done" (Tom, p.2). He goes on to talk about composting, both municipally and personally "by using our own compost, we are able to use them in our gardens and create our own food security, which is huge" (Tom, p.2). I have no memory of ever talking *about food security* in our discussions during Tom's time in Global Studies. After musing about whether the municipality is adequately using the food scraps they collect, he finishes by stating, “I might have to look into that later today" (Tom, p.2). Tom's education continues and continues in a manner that, according to him, is different than it might have been.

We teachers have spent much time and energy in planning to make sure that the slick, technology-minded, "short-attention span" generation isn't getting bored. Our mistake, in my experience, is that now we risk never getting them engaged in the first place. Kids want to learn. 'Trust kids" (Holt, 1970, p.1). Unfortunately for the *traditional* teacher, kids also know that we are forcing them to learn from some list of curricula that, in too many cases, doesn't resonate with them at all. It might not even create the kind of outcomes we want to see in our graduating young citizens. Our young people know what's happening in the world. They have sources of knowledge that many of us teachers never even dreamed about. We make a mistake if we think that not talking with them about these challenges is somehow protecting them. They may not have a nuanced understanding, but that's our job, as I see it: to help them gain a nuanced and balanced understanding. It we don't take the opportunity to help them take on the most pressing challenges

we face, we not only miss out on enabling an amazing group of problem-solvers, but we miss the opportunity to get our kids engaged.

4e The Academic All-"American"

"I wanted to feel like I was doing more." –Jordan

Jordan is 5'10". She is a hard driving, tremendously focused and highly accomplished full-scholarship rower at the University of Michigan, now at the end of her second year. That she decided to take the initial offering of the *Institute of Global Solutions* 12 in her grad year was a bit of a surprise to me. She had not taken the final Global Studies 11 class, as she was too busy rowing and attaining exceptionally high marks in her core courses to fit an elective in. Jordan also had no history of environmental involvement or global interest beyond some conversations to that effect in her Social Studies 10 class. That she chose to carve out a double-block was, it seems, due to a genuine interest in something she knew very little about. The initial class of IGS 12 had a huge variance in classroom make-up from academically gifted students like Jordan to a few a boys I was shocked had any interest at all. Likely they were just bored and the dual-credit set up of IGS seemed helpful to just get through. The challenge then was to find a way to inspire both ends of the student spectrum.

<u>The Interview</u>

When asked about the *balance between the presentation of sometimes difficult information with engagement in action designed* to *contribute directly* to *a solution*, it was telling that Jordan's response was "Um. I don't think we were honest enough. [laughs] I mean like working on the wetlands was a great experience and I'm sure it was making a difference but I still couldn't convince my parents to go buy their groceries from there [the organic farm]" (Jordan, Appendix 10, p.1). Jordan might classically be called a *realist*. She later admits she feels she has always been a negative person. When asked whether she had a more positive perspective as a result

of having taken the course she replies, “ ... maybe not a more positive person because I don't identify with being a very positive person" (Jordan, p.1). My analysis is different; I think she's just driven. "Global Studies opened me up to a realm of possibility but I still wanted to feel like I was doing more"(Jordan, p.1). Jordan's perspective is immensely instructive precisely because one of our early question was can we equally challenge a highly academic student as well as one who isn't considered academic but does well when involved in hands-on learning. "Sometimes you want to feel like you are a big shot, like you're doing more so I guess it's about finding a way to feel like doing those little things makes a difference" (Jordan, p.1). In terms of themes across each of the participants, Jordan is a bit of an outlier because her responses didn’t fit the pattern. And although she thought the project work was great, she wished we could have done more. I think she speaks volumes about how many young people feel when presented with an authentic look at the world's most pressing challenges. The challenges are daunting. What's most interesting is that her response was not to throw up her hands and say "*we're* screwed", her response is to want to do more.

Jordan had legitimate and helpful comments about the first incarnation of IGS 12 when she said, "it was hard to see how some of it [the field experiences] was going to be applied" (Jordan, p.1). She goes on to suggest that she wished there was an initial course that would introduce some of the global challenges and then a follow up that went more in depth, but admits that part of that was due to her situation (taking IGS 12 only in her final year and not having taken Global Studies 11) “ ... [it could be] almost like doing your major. You take a bunch of broad courses, you know, and then you specify" (Jordan, p.1). She noted that although taking Global Studies didn't necessarily make her feel more positive ”It definitely [gave me] a more involved picture of everything, like, going into university program, there's this *Students Athletes for Sustainability* and it was easy for me to get involved because I have this connection at home" (Jordan, p.2). Nonetheless, she raises an important point about ensuring that we connect the field studies and hands-on experiences to the concepts and challenges we are taking on in the classroom.

In IGS 12, unlike previous incarnations of Global Studies 12, everyone did all projects/field

studies together. For example, most weeks our 32 students who joined us for the first year worked with organic farmers at Haliburton Community Organic Farm. We also worked with as many as 5 or 6 different conservation biologists in the Haliburton Wetlands Restoration project as often as we could.

When asked what she would change if she were to design that program, Jordan points out that it was not always clear where the interdisciplinary connections were between Geography 12 and, then, Global Studies 12. It felt to her like we were jumping around a bit too much. One of the "lucky" challenges we had in the initial offering was managing to bring to the class two internationally renowned authors, Ronald Wright, whose book *A Short History of Progress* was the closest thing to a text book we could ask for, and Gwynne Dyer who spoke on his book *Climate Wars*. As incredibly powerful as these speakers were, it meant we had to immediately react to try to share some context and content with the students in more of a lecture style setting in order to take advantage of the wisdom of these two speakers. The effect definitely added to the *disconnect* that Jordan references.

Where things came together for Jordan was when she engaged in a larger project. Students were asked through a series of questions to document and describe the symbiotic relationship between the organic farm and the wetlands restoration project and then the community. ”It was easy to get involved with the wetland project because we saw progress and got more involved" (Jordan, p.2). Jordan and her partner furthered this work by documenting IGS's work with Haliburton (Documentary #2, Jordan). This became their major project.

When asked whether she felt more positive about the challenges the world faces, Jordan responded by betraying her own meta-cognitive understanding: ,, ... maybe not a more positive outlook, as I don't really identify as a very positive person, but definitely more involved" (Jordan, p.3). She goes on to describe some of the work she has done as a result of her participation in *Athletes for Sustainability* including some of the ideas and solutions she's generated. ”And if I didn't have it [IGS] I might have gone into something, I don't know, more mainstream ... having that course opened me up to listening to political leaders as well" (Jordan, p.3). Very instructive

is Jordan's answer to my first opportunity to ask the additional question of whether or not she felt the interdisciplinary process made her a better problem-solver:

> I don't know if it made me a better problem-solver, but it opened up new ways of learning. And if what you're learning about in these project-based things are something that catches your interest, then it becomes super easy to understand that, super easy to get involved with that subject.

This is the first concrete suggestion in my research where the interdisciplinary approach speaks directly to the learning process. This is a positive endorsement, as is the experience of Charles, who came from a very different approach to education.

4f *The International*

> "I came to Canada when I was 16 and I didn't have that much experience about global warming and that kind of knowledge. Being in IGS just gave me that perspective of what's happening in the world."
>
> --Charles, 2015

Charles has a father who owns a very successful t-shirt company in Mainland China. He was sent in grade 11 to Canada as a successful applicant to the Saanich International Student Program. He decided to stay for university and now attends the University of Toronto as an economics student who is doing a minor in environmental studies.

Charles is a perfect example of the kind of students we've been lucky enough to attract. He grew in up in the economic reality of being a son of a t-shirt factory owner and then faced an expanded idea of the world that did not exactly match what he had been led to believe. He is, in my opinion, one of our great hopes for leadership. Instead, of living in denial, he created a project with his friend Michael, from Hong Kong. They created an eleven-minute mini-documentary that took a hard look at China's environmental challenges. They were able not only to look at the solutions evident in China's *green revolution* but effectively turned the focus back on North America reminding us that many of the products we count on every day have *caused* the

problems China faces. Anecdotally, I know that at least one other student watched this video and decided that the focus of her post-secondary pursuits would be to take environmental science then end up in China helping to advise their green revolution. She was born to Chinese parents in Burnaby.

The Interview

To begin with, Charles quite powerfully enunciates the effect of learning that does not end in the classroom but extends into the field: *Iilt's* not just studying in the classroom and that way I don't think students can actually feel what the context of the lectures were. What I experienced with actually talking to the farmers and other people telling you what's really happening out there"(Charles, Appendix 11, p.1). When asked about the interdisciplinary aspect of IGS and whether actually getting out there and engaging in projects helped create a positive sense about the world, he stated: *"We* learned about the ocean and we learned about whales not just that the environment is crucial to us but also expertise knowledge of how to take care of the earth. I think that's really important" (Charles, p.1). Charles is referring to a trip taken on a whale watching boat to learn about coastal processes. The trip was guided by a scientist who is a veteran of four field studies to Antarctica. It is clear he was inspired by the opportunity and expertise of his guide.

Teaching the Social Media Generation

This experience also speaks to the power of the documentary as an evaluative tool. Although not a specific focus of my research, we are increasingly enabling our students to express their learning through these kinds of mini-documentaries. Charles' sophistication and understanding of the potential of this social medium are instructive. In his words, "For me, IGS needs a bigger platform for students to have the resources to reach out" (Charles, p.1). I remember the day well when Charles and Michael decided they would upload their project to YouTube. Although it was not a requirement of the assignment, they decided that it was

important enough to risk challenges returning to China should the mini-doc get seen by the wrong people back in Mainland China. Charles felt so strongly, there was no convincing him otherwise. When referencing the power that taking IGS had, he suggested: “It definitely changed my view for the world. It also gave me an opportunity to learn more deeply in this field" (Charles, p.1). Through their project, they were able to bring a larger audience into their own learning journey by sharing their personalized gifts and self-imposed academic rigor.

Charles finished by reflecting on what he gained from learning in an interdisciplinary manner with regard to his problem solving skills: “It definitely gave me more critical thinking skills" (Charles, p.1). He went on to reference a number of learning experiences at the University of Toronto where he thought he was better prepared to apply his knowledge and problem solving skills to help "look after the planet" (Charles, p.1) as a result of the interdisciplinary design of IGS 12. In Charles' words, "That kind of expertise knowledge can actually enable individuals to take better care of the environment and also give you new perspectives of thinking" (Charles, p.1). If Charles is the kind of international young problem solvers we're enabling, we are onto something.

How powerful can our young people become if they are enabled to express their learning around the world's most pressing challenges? This is a question that begs further research. It does speak again to a recurring theme in this research, that, not only does trusting our children with these kinds of challenges make for innovative and powerful learning, but that we *need them.* We need our young people to help us find solutions. Like Charles, our young people are "digital natives"), a phrase that Prensky (2010) coined to describe children born after the 1980's. I have called them the "research generation". Knowledge is, literally, at their fingertips. Searching for helpful knowledge that is sourced and applied to help society is a teacher's new challenge. In a recent *Rails* to *Resilience* IGS 12 tour of the *Re-build it Centre* in Portland, Oregon, one of the founders, Shane Endicott, reminded our 44 students that the typical flip phone involves as much technological knowledge as the technicians had who landed the Apollo on the moon. Potentially, that's 44 students empowered, engaged and adept with social media and poised to assume

leadership positions around the world.

The next interviewee, Teresa, provides perhaps the most powerful example from this study of the impact of a documentary. Her video resulting from the first *Rails* to *Relevance* trip to Portland and Hood River has had hundreds of views on YouTube. It had less than fifty words.

4g The Natural

> "High school students especially, hearing just about the kind of issues we have ... [it] doesn't really help us for the future, just hearing what's wrong. So I think that global *solutions* did a good job because the students in this class were pretty motivated and that's why we come here."
>
> -- Teresa

Teresa had already completed enough credits to graduate from high school at the end of the first semester when she appeared at the second incarnation of IGS 12. She *chose* to be there. She wanted to learn and to contribute. To *further* contribute would be more accurate. Given that that was true, motivation was absolutely why Teresa came o IGS. She is as motivated to make a difference as anyone who has gone through our program. „think the reason that we take this class is so we can learn how we can help" (Teresa, Appendix 12, p.1). Certainly this was true for Teresa. She is a "natural". She just wants to know how best to make a difference. The truth is, she's been making a difference most of her life.

It was very instructive to hear Teresa talk about the *transformative* potential of this class. Her thoughts on other students were fascinating: „...even in our class we saw that transformation. I'm not going to lie, when I saw them come into this classroom, I kind of wondered what inspired them, because they weren't the typical students you'd expect would come into this program. Then by the end, especially on our trip, [I saw] just how much things had been opened up for them"(Teresa, p.1). Teresa is alluding to IGS 12's "Rails to Resilience" trip that was the culminating journey that brings together both geographical and sustainable aspects of the

interdisciplinary offering in a giant field trip. The initial offering that Teresa joined and documented (Documentary #3) journeyed to Mount St. Helen's and then to Portland, Hood River and Orcas Island to see shining examples of sustainability. Most of this trip is done by train. The impact of that first journey led to it becoming a major and culminating component of the IGS experience. It started in 2012.

Teresa's reference to the transformative power of the journey was a reaction shared by many people in her class as she well describes: "… especially going to Portland and actually seeing how well they're doing there and how many of these things can be put in to action makes it seem more real for students who haven't seen it" (Teresa, p.1). Just about every student who joined IGS 12's 2015 class had viewed Teresa's documentary. Of a class of 54, 84% of them, 45 students decided to join this year's "Rails 2 Resilience II". In Teresa's words, "Going to see [examples of sustainability and resilience] in a city that's so close to us and so similar, it makes you think that we can actually do this ... it definitely gives you an idea of what's possible" (Teresa, p.2). Over and over in our interview, Teresa returned to the idea of solutions. Despite already seeing herself as a positive person, her problem-solving confidence became deeper and more ... resilient.

When asked about the effectiveness of the interdisciplinary approach, Teresa had this to say: "Kids come here because it's so different from how we normally learn. I think there's something about going out and seeing what you're learning" (Teresa, p.2). As I write this in the fall of 2015, Teresa is in Fiji volunteering at a school that supports the rural poor of that South Pacific nation, through *Latitude Canada.* Every photograph that she passed on to me suggests that she is having the time of her life.

The Power of the Journey

The "Rails to Resilience" IGS 12 trip was inspired by the original Rails to Relevance" trip that we dreamed up in June of 2013. While looking at curriculum descriptors for Social Studies 11 to see where we could create interdisciplinary connections with Global Studies 11, it occurred to me that the ultimate way to teach about government, a major component of SS11, would be to go where

government is: the Houses of Parliament. I remembered that our Member of Parliament (MP), Elizabeth May had invited me to bring a class to come and visit her in Ottawa. It was a rather off-handed invitation. So when I emailed her to ask if the invitation still stood and would she entertain as many as 40 grade 11 students who want to learn about government from their top representative, I was pleased when she responded within 45 minutes with "Absolutely". Although the original trip required a tremendous amount of organization, 37 students, two parents, 4 teachers, an Member of the Legislative Assembly (Lana Popham - NDP) and one MP (Elizabeth May - Green), left Vancouver on a Friday in November, 2013. The next four days were spent interviewing train riders from across the country, lessons on the geographic regions of Canada and three amazing lectures on the nature of Canadian democracy, both provincially and federally, that spanned the time period from the Magna Carta through the then-recent Senate Scandal. We spent time in Toronto, were in Ottawa for Remembrance Day and had two visits to Parliament where we met representatives of every political stripe. We finished in Quebec City, where we learned that not every Canadian citizen was necessarily pleased to be a citizen of Canada. Next fall's "Rails 2 Relevance III" (2015) will head to the United Nations in New York City. The trip has become an institution in and of itself.

4h The Road to Damascus

I never really knew how big of a problem climate change was. I mean I knew it existed but I didn't realize the consequences and, just the point that our society is at right now and it definitely made me want to make a change."

--Thomas

Thomas was going to be a doctor. As one of the most decent, humble and kind young men I have ever had the pleasure to teach, he would have made a good one. So when his father, our assistant-superintendent, told me that as a result of taking IGS 12, Thomas had chosen to go into environmental science instead, I wasn't sure how to feel. Last year Taylor won the Elizabeth

May scholarship for environmental leadership. It is not the only award he won at Claremont's graduation ceremony. He could have done anything he wanted.

The Interview

Thomas had had a transformative experience "basically because I took Global Studies" (Thomas, Appendix 13, p.1). He speaks as clearly as anyone in any of my interviews about the effectiveness of the solution-oriented approach that IGS takes:

"...especially when you're dealing with environmental issues, you can get really negative and just, feel really down about the problems in the world so it's nice to feel like you can actually make a difference" (Thomas, p.1). He goes on to reference many of the same examples other participants reference, supporting one of the most powerful themes that has emerged from my research: doing something about the challenges our world faces and meeting others that are doing the same engenders hope. This is another powerful theme. Whether it is working with organic farmers, helping to restore wetlands or meeting some of the global leaders of community and city transformation, students feel more empowered and more hopeful when they leave the classroom and engage in action in response to the world's most pressing challenges. That may be in their community, across the country, even in other countries, but it is clear in my research that learning about these pressing challenges can't be limited to what can be found in a classroom and in a textbook.

Something that became clearer as my participants got younger and closer to the most recent incarnations of IGS: they had less to contribute in terms of what they would change about the program if they could. Given that the last two interviewees, Teresa and Thomas, only graduated in June 2015, it is possible that, because they are young and haven't had much time between their involvement in IGS and now, that not enough time has passed to enable them to effectively be critical about a program they were clearly affected by. I'd like to believe that we're getting more and more effective at delivering our model. It's not a question that can be answered

in this thesis.

When asked if he had a more positive outlook as a result of his participation in the course, Thomas suggested the program "let's you know that there is a possibility that you can make a difference. You don't have to be the government or a huge corporation, individual people can make differences if you put in the work" (Thomas, p.2). Thomas also echoed the other interdisciplinary IGS participants by suggesting that "taking down the parameters [between disciplines] makes you take a step back from the actual question so that you have a wider perspective on what's really happening" (Thomas, p.2). Thomas could have done well in any program. He would have been a great doctor. Maybe he still will be, but if that becomes the case, his transformation in the final part of his high school journey will be one that helps him to become a problem-solver undaunted by disciplines. It's not a classic *Road* to *Damascus* story but given his potential, we may all be pleased that Thomas made the journey.

Chapter 5: Summary of Findings

> "Through your methodology you're engendering a certain ontology, like a way of seeing the world through in terms of the issues that you're looking at ... through social justice, social responsibility, volunteerism and all of these things are uniquely present in the Global Studies program in a very profound way. "
>
> --Terrance

What impact has Global Studies/Global Solutions had on students who have taken it and what will they do with the skills that they have acquired? That I have quoted my own former student as I begin the summary of my findings speaks to two things: that we can in fact "trust children" (Holt, 1970, p.1) as John Holt suggested so many years ago, and that interviewing eight former students who represent the evolution of the journey of Global Studies/IGS has proven a rewarding way to answer my guiding question.

In analyzing the research findings in this study, two major themes emerge:

- the learning experience of the eight graduates was "transformative"
- some special features of the IGS program (approach) contributed to the transformative experience

Selected aspects of these two themes are summarized in this chapter.

Transformative Experience

Overall Transformation

The interviewed students reported that their experiences with Global Studies/IGS:

- created a sense a responsibility

- left them feeling more hopeful (positive) about the future

- helped them learn how to approach complex problems

- through the power of an interdisciplinary approach to project work,
- through linking "academics" with hands-on "engagement"

- helped them learn to work in teams, and experience the power of collaboration

I argue that a transformative active/academic program begins with trusting that senior secondary students are ready to take on the complex challenges we face as people living on this planet. ***The Power of Youth*** has been evident in every step of this research. Every single participant that I interviewed, from the early stages of Global Studies to the interdisciplinary offerings of the *Institute for Global Solutions*, not only rose to the challenges presented to them, but every single one of them talked about some kind of ***transformative experience,*** a changing of their worldview. What form their transformation took varied but whether they were highly academic young people who went on to successful post-secondary experiences, or those who chose to volunteer in their local or global communities, or one who simply made a choice to join the working world, each of them spoke to this transformation: "When you engender a sense of responsibility, when you identify that responsibility, there's an expectation to act on that responsibility" (Terrance, p.1). The transformation is associated with this trust and the related sense of responsibility. It also comes with hope.

Hopeful

When asked if, *as a result of your experience in the course, you have a more positive feeling about things that can be done in the world*, seven of eight had no hesitation in suggesting they did. The responses were nuanced and often qualified but *each credited their experience in the course with their having a positive sense of what could be done.* One could argue that many of these young people came in with quite hopeful outlooks, but Jordan's response suggests that, had she not taken IGS, she would not be as involved in solutions. None of the participants were indicative of the stereotype so often visited upon members of this generation: that they are uncaring and disengaged. In fact, this kind of educational focus on the world's most pressing challenges illuminated engagement, particularly when it was approached in an interdisciplinary manner.

The Interdisciplinary Approach Fosters Problem-solvers

Each of the four participants who took the interdisciplinary offering of IGS spoke to the effectiveness of that approach. In fact, even the four members of the Global Studies group suggested that the interdisciplinary approach was present even before it became a specialized offering in IGS. All eight of the interviewees suggested that when there was a clear connection between academic work and hands-on, project-oriented engagement, a sense of purpose and hopefulness ensued. The "Power of the Project" was a clear theme across the interviewees, as was the "Power of Collaboration". Through the data, I learned that this type of solutions-based program promotes resilient students who go on to become *difference-making* post-secondary, community and indeed, global citizens.

Collaboration is Key

As alluded to in the early sections of this thesis, many educational philosophers of 21st Century Learning agree that learning needs to be more collaborative. My research absolutely bore that out. Time and time again my former students pointed to just how powerful working in a group was when doing something related to the challenges they were passionate about. Even introverted Sierra suggested that students should be "forced", if necessary, to work within a group. Although not a specific question in my research, it became a powerful theme. Terrance took it a step further when he spoke so eloquently about the "Power of Conversation". He talked about how much he learned from "what other students are thinking about with respect to these issues and it mirrors a broader community dialogue. Right? You get a rich diversity of perspectives" (Terrance, p.2). Again and again, in my research, participants spoke to the power of the class discussion on difficult topics when enabled in a safe classroom and learning environment where assumptions were gently challenged.

Special features that contributed to student learning

The interviewed students reported on the positive impact of the following aspects of Global Studies/IGS:

- the speaker series

- enabled them to meet role models
- stimulated on-going conversations (beyond the “talk” or lecture)

- trips / journeys (including “Rails to Relevance/Resilience”)

- fostered interaction with both “regular Canadians/Americans”
- supported becoming a part of a larger citizenry, community or family
- made possible travel with role models (Elizabeth May or Lana Popham)
- allowed them to meet community leaders many of whom were young

- collaboration among teachers

- becoming a part of a small teaching community/team
- demostrated interdisciplinary approach (spoke again to role-modelling)

The Speaker Series

Terrance talks specifically about the power of the community in the conversations generated by the visiting speakers:

> ... bringing the class into the community and bring the community in the class. That was always the most remarkable, the most memorable things I remember about Global Studies was having people come into the class and share their perspective in a way that was really relevant, to have a discussion about and it and saying 'this is what I do and this is what you can do.

Victoria echoed Terrance's sentiment regarding the practice of welcoming guest speakers: "You know there are people who are interested and engaged and want to see you succeed" (Victoria, p.2). Now in IGS, speakers have become so prevalent that we call it a "Speaker Series". In any given semester, we have a guest speaker almost weekly, and these include politicians, local community experts, inspiring young people who can become role models, and internationally

renowned authors and academics. The conversations that ensue from welcoming an expert in their field, including experts whose depth of knowledge far outstrips anything a full time high school teacher could be expected to have, are powerful. Thomas Homer-Dixon, author of *The Upside of Down* and Innovation Chair of Global Systems at the University of Waterloo suggested that our IGS 11 students were asking questions beyond what his own first and second year students at the Centre for International Governance and Balsillie School of International Affairs often offered. When young people are empowered to ask big questions, big conversations ensue. Collaboration with their peers, their community and often internationally renowned speakers has been exceptionally powerful.

The Power of the Journey

Referenced repeatedly by my interviewees, and among the most powerful and evolved parts of the *Institute for Global Solutions'* attempt to answer the question *What could an academic/active program that is accurate yet hopeful for senior secondary students look like, given that it focuses on the world's most pressing challenges,* have been 'the journeys'. Our two major trips, "Rails to Relevance", now to Winnipeg, Toronto, New York, Montreal, Quebec City and Ottawa, and more specifically "Rails to Resilience" to Portland, Hood River and the Oregon Coast, effectively combine all of the major themes of my research and were referred to over and over again by the final two participants, Meghan and Taylor, These trips have inspired political engagement, adventure, pride of country and pragmatic solutions. They've inspired collaboration, and in that collaborative spirit, these trips have inspired hopeful engagement. I cannot advocate highly enough for the inclusion of such trips when creating an academic/active program that focuses on the world's most pressing challenges.

Teacher Collaboration

Although not a specific part of my research (perhaps warranting another research study),

I can't fully answer the guiding question of this thesis without mentioning just how important teacher-collaboration has been. As a founding teacher at the *Institute for Global Solutions*, I completely underestimated this phenomenon. It has become an essential part of teaching the world's most pressing challenges to senior secondary students. Our team now includes five teachers, each of whom brings their own level of expertise to the team. As our interdisciplinary classes are generally over fifty students, each features two teachers at a time teaching in tandem. Oftentimes we'll have three as a third teacher will spend their prep time among the group working on the tremendous amount of administrative tasks that go along with a multi-day trip, community volunteerism and collaboration and multiple speakers. Such collegial collaboration and investment lends energy to teachers who expend so much of it and it promotes excellence. It has essentially made the *Institute for Global Solutions* possible.

Major 'Lesson': We can trust our students, particularly by creating an environment for transformative learning.

And the journey continues. If I have learned anything in my teaching journey and from my research it is that trusting young people to inform and guide their own learning has given me hope enough to take on the most pressing challenges of the world. I have never enjoyed teaching more than I do now and I will absolutely keep innovating and learning, learning beside my students. When Gardner considered the concept of "educating virtues in the 21st century", he suggested that: "We must also reconsider how our young people should be introduced to these three virtues and how - and to what extent - older persons should periodically reconceptualize them. Start with truth" (Gardner, 2011, p.7). We need to be authentic. If we are, we will create a level of engagement that is the antithesis of the apathy too typically seen among senior secondary learners.

I will finish as I began four years ago when I proposed this research: "We cannot solve the world's problems at the level of thinking that created them" (Einstein, 1946). If we will trust our students with the most pressing challenges of the world, they may just show us how to solve them. That gives me hope.

Chapter 6: Discussion and Final Thoughts

Limitations

I acknowledge that this study's limitations include the fact that the sample is a small one, that there was only a single interview of each participant, and that my dual role of instructor/researcher potentially biases the study because I have a vested interest in positive outcomes. I further acknowledge that some participants were unable to meet with me face to face but rather were interviewed via Skype™ (which introduces differing conditions), and that it is possible that those students most positively impacted by the program might be the more likely to agree to participate, potentially skewing the sample etc. Also, the intention was to examine one evolved course/institute, and although at times, I have made generalizations beyond the scope of this program of focus, my intention is to highlight the themes that were a result of interviewing a specific group of students. As suggested by Woods: "Where qualitative research is seeking to generalize about general issues, representative or 'naturalistic' sampling is desirable. This covers places, times and persons" (2006, p.6). I do feel that the interviewees are representative of both versions of the program over the nine years of its evolution. I was hoping, as Hannan (2007) suggests, for those who "can represent the full range of experience and opinion". In the end, and given the limitations of two versions of a very specific program, the students' opinions expressed are very helpful and certainly informatively address the questions posed.

I recognize, however, that students in both versions of the program are essentially self-selected and because this is true, the interviewees are representative of the kind of students that tend towards global studies and not necessarily of the general student population. Nevertheless, it is my hope that the experiences described show that there is a great range of perspectives here that usefully contribute to the discussion of how to effectively teach high school students about the world's most pressing challenges. Certainly, I can claim that this research has enlightened what has been the most rewarding teaching experience of my life.

Teaching: A Necessary Journey

> Soul loves to include and to learn; it is always trying to embrace things, to inhabit the brokenness of the world.
>
> -- John Tarrant, *The Light Inside the Dark*

The challenges faced by our young people at this time, today, right now, have no precedent. Certainly past generations have had massive challenges - the proliferation of nuclear weapons - but the humans who inhabit the planet have never faced the end of resources on a scale like we now face. In David Suzuki's words, "In the past few years the acidification of our oceans, the loss of glaciers and ice caps, the destruction of forests and agricultural land, and the increased instability of the planet's weather have only gotten worse" (*2010,* p. 10). As humans, we can dismantle nuclear weapons out of existence. We cannot, however, add air, earth and water to the only habitable vessel in the known universe - the one we currently inhabit. There is simply no more planet. And no matter how wise we believe we have become, circumventing the first, second and third laws of thermodynamics (Suzuki, 2010), is a task beyond our civilization. Ronald Wright, one of Canada's best writers on the nature of human civilization, put it this way:

> The future of everything we have accomplished since our intelligence evolved will depend on the wisdom of our actions over the next few years. Like all creatures, humans have made their way in the world so far by trial and error; unlike other creatures, we have a presence so colossal that error is a luxury we can no longer afford. The world has grown too small to forgive us any big mistakes. (2004, p. 111)

The wisdom of Wright's statement is supported throughout five reports by the greatest gathering of scientists in the history of scientific research: the United Nations International Panel on Climate Change (IPCC). If one accepts this to be true, then ***I*** have to ask: what is the role of teachers? ***I*** have to ask it, because I am a teacher.

When I began my journey into a course I took as part of my masters' program, the psychological dimensions of environmental education and communication, I felt my challenge, my

question, was how to create an academic/active program for 16 to 18- year-olds that engages them in some of the most pressing challenges the world faces in a way that is accurate, yet hopeful. As a part of that process, I was asked to write five blogs. I just read through them. It was instructive.

My awakening that has come as a result of this journey, as much as it was shocking, is also clarifying. I currently run a program that wrestles with the aforementioned challenge/question - the *Institute for Global Solutions* at Claremont Secondary School. I am lucky to work with four co-teachers who are willing to put student engagement and innovation first. I have learned that engagement can be "understood here as concurrently comprising *cognitive, affective and behavioral* aspects" (Lertzman, 2013, p.9) of thought. I now understand it as such. I have also learned that the "systems" orientation of current psychological thinking includes "innovation studies" (Lertzman, p.3). I subscribe to this kind of innovative orientation and its recognition of the times in which our young people are learning, both because it supports the curricular decisions we have made for our program, but also because this orientation's unifying question is “How can we design a better world/solution?" (Lertzman, p.3). It would be a wonderful final question to ask students as they move on from their time with us. I would like them to feel comfortable with answering questions that big. I would also now like to replace the word "institute" in our title because it smacks of elitism. I'd replace it with the word "innovation". I have learned that an *innovative* approach to environmental communication would be to stop preaching to the converted. This is not an approach we use at IGS. It seems, however, that many well-known environmental communicators do just that. “That", however, is not enough.

I feel lucky to be in front of 16 to 18-year-olds. I mention this because I now realize that, at least for me, the new iteration of my challenge/question is different. I need to challenge myself to engage other teachers to take a necessary journey with me. And I can't help but wonder if we teachers should also challenge ourselves with this level of engagement. It is one that "requires us to consider our own biases, requirements and capacities to move beyond our comfort zones, where we need to be innovators and collaborators" (Lertzman, p.4). I realize, that when Dr.

Lertzman wrote that line, she was referring to social scientists, to risk psychologists, psycho-social, psychoanalytic, psychodynamic searchers for a deeper understanding of the human condition and their relationship to our environment. I am now using this approach for teachers. I believe this will be my contribution. Because that is true, I most firmly situate myself in the emotions, affect and immersion orientation of current psychological thinking on environmental engagement. When combined with the research beckoned by John Abbott, Sir Ken Robinson and others regarding the "brain science" around adolescent learning, two pieces of the puzzle previously unattached in my mind, come together. We will not encourage our young people to take on the most pressing challenges in the world by leaving them confined to rows and surrounded by the four walls of our classroom. They will need to collaborate. They will need to engage their communities; engage in hands-on projects and problem based learning. And ... well, engage. Engagement is a key word in describing the goals of 21st century educators.

Collaboration is the very catchword that 21st Century" or "Personalized" Learning has at its core. And its interdisciplinary nature attests to the conviction that dealing with the aforementioned challenges requires an interdisciplinary approach. Even energy and economics need to be rethought. To quote Rubin, "It is hard to say which possibility is more alarming to economists - that the world has reached its peak oil production plateau, or that the rules of their vocations don't seem to be working any more" (2009, p. 15). It seems counterintuitive to think that in a world that is seeing such rapid change and shifting challenges, school systems wouldn't take on these immense challenges with their students and understand that the way we teach our kids needs to change with the realities of the 21st century.

I have strayed from interacting as much with other teachers over the years *because* they are adults and I find adults increasingly frustrating. I feel much more comfortable engaging with young people between the ages of 14 and 18 because they have so much potential, and their willingness to engage in what is possible - rather than wallow in what is probable - is infectious.

"**Some people see things** as they are and **say why**. I dream **things** that never were and **say why** not?" --George Bernard Shaw

It is inspiring. I now contend that, at least in the case of teachers, this is likely because they are engaging in one or many defense mechanisms that are consistent with avoiding a profound sense of loss. Our additional challenge is that, every day, we have to put a brave face on in front of 90 to 120 kids. Once again, I find confirmation in Robert Jay Lifton's assertion made in 1955: "If one does not look into the abyss, one is being wishful by simply not confronting the truth about our time ... On the other hand, it is imperative that one not get stuck in the abyss" (Jenson, 2004, p.171). As a result of my research I have come to understand that crawling out of the abyss then, is a teacher's imperative.

My experience of 22 years has been that students are ready to embrace many of the next steps we humans, as least cognitively, recognize that we need to take. They are ready to accept that *"the* sort of changes that are required to truly address the challenge of climate change are deep systemic changes, which require the status quo to be questioned - and regimes to be changed" (Lertzman, p.28). I would argue it is in the very nature of young people between the ages of 14 and 18 to question. It is my experience that they are capable of asking big questions indeed. I've found that we adults have embraced defense mechanisms against the darkness that comes when confronting the world's most pressing challenges. Many of us feel the need to protect our students against what lies there because we want to believe we can make the world better for them, but "they" need to be trusted. "Trust children" John Holt said in 1971 (p.1). We adults, we teachers, have never had such need to trust them as much as we do now. We teachers need to confront the darkness. We probably need to spend some time walking around in it, to be willing to bump into the realities that exist there. And when the morning comes, and it always does, we will be ready to lead our students again. We need to be ready to facilitate the very real and important questions and emotions that may arise from our students as we authentically share realities of our time. Night is upon us. Who will now lead us through to the morning light?

> I hope you will hear a unifying consciousness, telling the old story of going out and coming home, as if by firelight in a cave, so that the children listening now with upturned faces will know, when their turn comes, that others have gone before and that they are not alone. (Tarrant, 1998, p.9)

As a teacher, I charge us with going out and coming home so that when we tell our story, our students will understand that they are not alone.

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