FUTURE FRIENDLY SCHOOLS

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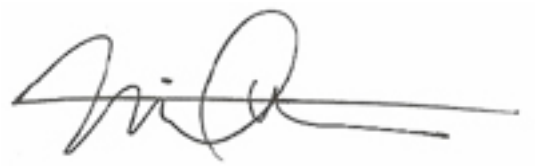

Michael Furdyk

ABSTRACT

The Design of an Inclusive Education Revolution

Education is key to our growth and development as productive, engaged citizens, and yet many of today's education systems around the world leave many learners behind in their drive for standardization.

Imagine if education systems across the globe included every student in a learning quest to discover their interests and connect with a purpose in life that contributed to creating a peaceful, inclusive, and sustainable world...

The participatory design of the Future Friendly Schools network and certification program is an attempt to design a solution that inspires educators and schools to align their practices to address this vision.

ACKNOWLEDGEMENTS

To my parents, mama and tato, for bringing the Commodore 64 into my world in 1985 and always supporting (and putting up with) my crazy adventures as I "grew up digital". I was just two, and this magical machine unlocked a lifetime of curiosity.

To my teachers, especially Mrs. Norma Gee, for dedicating their lives to the potential of future generations and always challenging us to live up to our potential.

To my friend Sean Keith, with whom I brainstormed "Neoteric Learning" to improve the education system on our childhood neighbourhood bike rides.

To my team members at TakingITGlobal, especially Kate Gatto, Sara Hassan, Katherine Walraven, and Jennifer Klein, who wholeheartedly adopted and helped to strengthen my vision for the idea of creating the Future Friendly Schools program.

To Terry Godwaldt, our partner and the founder of the Centre for Global Education, with whom the seeds of this idea were planted during a lunch meeting at his school in Edmonton. Your passion and commitment to global citizenship inspires me every day.

To my friends and education thought-leaders Bruce Dixon, Ron Canuel, Gary Stager, and Gavin Dykes. Your quest for positive change shows us that anything is possible.

To my program director and faculty advisor Jutta Treviranus, who encouraged me to join the MDID program, supported the development of these ideas, has been a role model as an advocate for and champion of inclusion around the world.

To my external advisor Dr. Leslie Conery, who I met when she introduced me for a keynote nearly a decade ago, and has created so many extraordinary opportunities for the growth and adoption of our ideas in the world's classrooms.

To my mentor Don Tapscott, who invited me to give my first public speech at the launch for his book "Growing Up Digital". The connections you've made have changed the direction of my life in ways that I am so grateful for.

To my co-founder and wife Jennifer, with whom I excitedly brainstormed the vision for TakingITGlobal, and who recently brought our next generation into the world with so much love and strength. We've spent the last decade co-creating a better world and I look forward to the rest of our lives directing our passion to purposeful positive impact.

DEDICATION

To Jean-Paul. I hope you find joy in learning and a life of purpose, and that I am able to inspire you to play a role in creating a Friendly Future for the next generation.

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Defining the Problem

> "Today's education systems faces irrelevance unless we can bridge the gap between how students live and how they learn"
>
> ~ Partnership for 21st Century Skills

Today's schools exist in a connected yet troubled world, and the demands placed on them have never been higher. Our world and its problems are increasingly complex and complicated, putting pressure on schools to produce problem solvers driven to contribute to positive change. Schools are mandated to impart "21st century skills" as well as the traditional "3 Rs" of reading, writing, and arithmetic, and to produce strong results in standardized testing and competitive global studies. They are also expected to quickly and creatively integrate new tools and technologies, while effectively guarding against threats such as cyberbullying.

Unfortunately, change in education systems is notoriously slow and challenging, as schools find themselves constrained by budget limitations, curriculum requirements, regulations, legal considerations, and policy agendas. Because of these and other challenges, few schools are able to deliver on what is asked of them. Even worse, many schools are struggling just to engage students in their learning.

In many countries, students are dropping out of school at alarming rates — despite large budgets and significant investments in classrooms, teachers, and technology. While there is no one reason for abandoning school, a growing body of research demonstrates that a perceived disconnect between school and the "real world" is a common motivator. The problem is often not that students are not capable of academic success or even that they don't believe in themselves, but that they find their school experience boring. While most students have a positive outlook on

themselves and their potential, they feel undervalued in school and often don't see the relevance of what they are learning to the outside world.

Disengagement tends to be a gradual process, with interest in and excitement about school waning over time. According to the Canadian Education Association's *What did you do in school today?* research initiative, which has surveyed over 60,000 Canadian students since 2007, the percentage of students engaged in their learning drops from 82% in grade 5 to a mere 45% in grade 12.

Schools do not have the support they need to effectively teach for today, let alone tomorrow. Imagine if they were part of a global network of future-forward schools determined to rise to the challenge of true 21st century teaching and learning. Connecting these schools would enable them to challenge each other to serve and include every learner, to celebrate achievements beyond just test scores, and to collaborate in learning about and taking action on issues that matter.

Introducing Future Friendly Schools

In imagining what the elements of a Future Friendly School might be, I settled on three initial key values of global citizenship, student voice, and environmental stewardship, based on the interest and best practices I've seen emerging from educators and schools over the past decade. These values are complimented by two critical approaches, the immersive use of information and communication technologies (ICTs) and project-based learning (PBL), which are ideally integrated to support the development of all three values. In this overview of my MRP, I will take you through each of these value areas and approaches, providing context for why I believe they're key to inclusion and engagement of all students, and then I will share the design process I undertook to create the certification itself. Future Friendly Schools is not just a theoretical project I've led the design of, but it was formally launched at the International

Society for Technology in Education (ISTE) conference in June 2013 with the support of my team at TakingITGlobal, the Toronto-based charity that I co-founded to empower young people to understand and act on the world's greatest challenges.

Immersive Use of ICTs

> "The simple secret is that if you can show a teacher genuine benefit from using technology; relevant, worthwhile ways in which technology can allow them to be a better teacher; ideas and possibilities that will enable more of their students to engage and understand more difficult and complex concepts, more often....they will do so"
>
> ~ Bruce Dixon, Founder, Anytime, Anywhere Learning Foundation

TakingITGlobal was co-founded in 1999 as a global online community aiming to inspire, inform, and involve young people in being active contributors to a peaceful, inclusive, and sustainable world. As the world of Web 2.0 has evolved and online social networks came into wide adoption, educators around the world began to connect and collaborate in growing numbers.

It was August 2000, and I was visiting Lorne, Australia, where Bruce Dixon had invited me to speak at the Emerging Learning Horizons conference with my co-founder Jennifer. The reception to our ideas was overwhelmingly positive, and we began to see the huge opportunity of developing ways for educators to bring our community and resources into their classrooms. Over the coming years, an explosion of interest developed in "one to one" laptop programs, with a number of schools around the world racing to put a personal computing device into the hands of their students. Some schools and districts took a cautious and thoughtful approach, giving their teachers a head start and years of professional development before they were challenged to engage a classroom full of open screens. Others declared "laptop learning" a failure, perhaps failing to engage in reflection of what went wrong in their rush to trumpet their tech-savvy status. In May of 2007, the New York Times published a

major article in their education section titled "Seeing No Progress, Some Schools Drop Laptops", which featured the following quote from Mark Lawson, School Board President in Liverpool, NY "After seven years, there was literally no evidence it had any impact on student achievement — none." I strongly feel that 1:1 access to computing on its own isn't enough to transform student engagement, which is why I selected it as a key approach, but not a core value for the program.

Thanks to the careful planning of Ron Canuel, former superintendent of the Eastern Townships School Board in Quebec, Canada, we finally have some strong evidence that technology can increase student outcomes if implementation is carefully planned. At the ETSB, which began to implement 1:1 student access to technology in 2003, dropout rates have decreased 17.3% from 39.4% to 22.1%, and they have jumped from 67th to 23rd in provincial rankings as of December 2012. An earlier version of the study found the use of computers as a teaching tool reinforced motivation, led to increases in concentration, and facilitated the development and autonomy of students.

Student Voice

> "We should expect students to learn more while being taught less. Their personal engagement with their own learning is crucial."
>
> - Theodore Sizer

In business, there are any number of famous quotes about the importance of a customer-centric approach - from "the customer is always right" to "without the customer you are dead". In the "business" of K-12 education, however, the customer is often considered to be the parent, and the needs and participation of students themselves in the delivery and consumption of their product have historically not been a strong focus in schools. With the sharp rise in opportunities for personalization and

customization in the world around us, I believe that a strong student voice in both designing their learning environment and co-creating their learning journey is critical to ensure increased student engagement. Demonstrating this, as part of a secondary analysis of the longitudinal Sloan Study of Youth and Social Development, it was found that students ability to feel secure, content, and in control of their learning ("Control Mood" variable) was most affected by the levels of choice and authenticity of the learning activity.

Ensuring that learning is inclusive and accessible, through personalizing experiences for each student, supports a diversity of learners in reaching their educational goals, each contributing uniquely towards an innovative and prosperous society.

Environmental Stewardship

> "In the end we will conserve only what we love; we will love only what we understand and we will understand only what we are taught"
> - Baba Dioum, Senegalese Environmentalist

Regardless of one's position on climate change and global warming, we can all agree on the need to minimize our individual impact on the environment (or "ecological footprint") to sustain a healthy planet, given the rising world population and our dependence on fossil fuels. Through programs that promote environmental stewardship, Future Friendly Schools ensure students are connected to their environment and develop respect and admiration for the natural world at a young age.

95% of American adults think environmental education should be taught in schools. (Coyle, p.ii) A study of Environmental Literacy in America found that environmentally knowledgeable people are 50% more likely to recycle, 50% more likely to avoid using chemicals on their lawn, and 10% more likely to save energy in their home. (Coyle, p.xi) It's especially important to ensure environmental stewardship is

combined with innovative challenge-based learning approaches incorporating the other values of Future Friendly Schools. An evaluation of a hands-on program found that 76% of students scored 60% or higher on actual environmental knowledge, compared to only 25% of students who were taught using traditional "lecture-style", information only approaches. In addition, 75% of students taught using more student-directed methods reported taking a recent environmental action, compared with only 43% of traditionally-taught students. (Coyle, p.xi)

Another study found that environmental education improves reading and math scores, and classroom discipline problems decline, with poor performing students "coming alive" with an environment-based curriculum. (Glenn, p3-4)

Global Citizenship

> "The world into which today's high school students will graduate is fundamentally different from the one in which many of us grew up. We're increasingly living in a globalized society that has a whole new set of challenges.
>
> - Vivien Stewart, Asia Society

In "*Becoming Citizens of the World*", Asia Society's Senior Advisor for Education Vivien Stewart reviews several key trends that highlight the necessity for increased focus on teaching for global citizenship. Rapid advances in science and technology, demographic changes created by international migration, the internationalization of trade and economics, and the globalization of health and security concerns have led to today's interdependent world.

With issues facing our world becoming increasingly globalized, it's more important than ever for students to understand, respect, and appreciate the diversity of cultures and perspectives across the planet. This can only happen if education evolves

to prepare students for a global workplace, fostering intercultural communication and collaboration skills.

There's a long way to go. According to a study from National Geographic/Roper, most young Americans have a limited understanding of the world around them. 70% couldn't find Iran or Iraq on a map, 75% thought the majority of India's population was Muslim, and 11% couldn't even find the U.S. on a map. (Roach, 2006) In 2012, World Savvy released their *Global Competency Survey,* which highlighted that only 12% of high school graduates felt that they received instruction in school to help them understand the roots of global issues. Fostering Global Citizenship amongst students is critical in ensuring they can effectively collaborate with a multitude of stakeholders in whatever role they seek in society.

Project-based Learning (PBL)

> What is needed is a new teaching model that incorporates the best aspects of problem-based learning, project-based learning, and contextual teaching and learning while focusing on real problems faced in the real world. This model must engage students' curiosity and desire to learn.
>
> - New Media Consortium Report on Challenge-based Learning

My initial idea was to have "Social Innovation" as the second approach, but after much debate with my team, we agreed that many schools and educators might not understand how to apply social innovation as an approach within their programming. We agreed that it is an overarching concept that is well-embodied in the approaches of both Challenge-based and Project-based Learning (CBL and PBL).

Both CBL and PBL focus on real-world challenges, providing a framework for students to propose and often develop solutions through a process of questioning, debate, design, analysis, and action. The Buck Institute for Education (BIE), a well-

regarded champion of PBL methodology, describes that Project-based learning ensures "students gain a deeper understanding of the concepts and standards at the heart of a project." and emphasizes that "PBL can motivate students who might otherwise find school boring or meaningless." BIE has created the following diagram to describe the elements of a successful Project-based Learning experience.

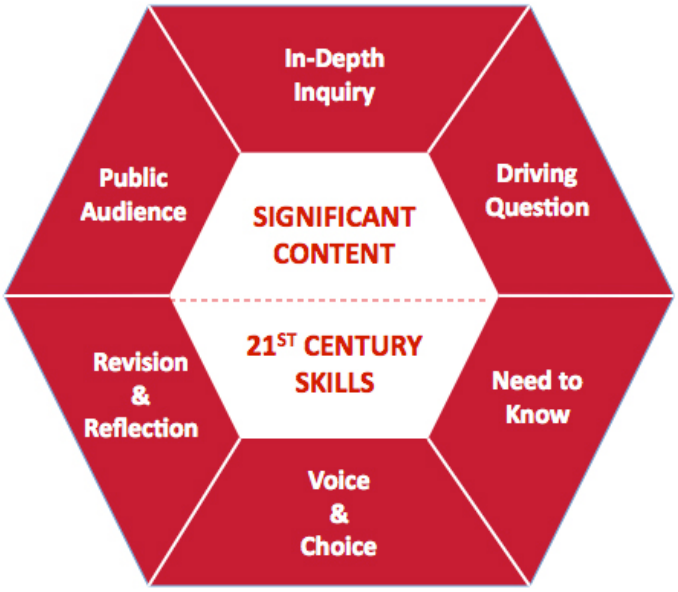

Figure 1: 8 Essential Elements of Project-based Learning, Buck Institute for Education

BIE has conducted extensive research studies comparing a PBL-based approach to traditional instruction, and found that PBL can be more effective in increasing academic achievement on assessment tests (Geier, 922-939), can improve students' mastery of 21st-century skills (Gallagher, 195-200), and is especially effective with lower-achieving students (Lynch, 921-946), along with being an effective model for whole school reform. As such, I believe that Project-based Learning perfectly compliments the Immersive Use of ICT as a key approach for Future Friendly Schools to use as they embark on their journeys to grow student engagement through the program.

Designing the Certification

During some initial conversations with educators and administrators of schools, I received consistently positive feedback that developing a certification through an inclusive process would play an important role in helping to raise the profile of the value areas being assessed. Before jumping into the process of designing the certification itself, I was able to benefit from the insights of several members of the steering committee who provided one-on-one insights based on their experiences with creating or seeking certifications. In particular, Lee Fertig at the Graded School in Sao Paulo provided a great overview of a certification his school participates in, and Bob Poole from International Baccalaureate made connections to several IB schools to gain their input. Steve Bibla from the Toronto District School Board, who authored the EcoSchools Certification Guide, provided valuable guidance on establishing the mechanics of the certification, particularly through sharing their experience of requiring top-level schools to have several years of demonstrated commitment before earning the "Platinum" level, and the importance of an annual certification process.

In 2007, UserVoice as founded as a start-up in Silicon Valley with a mission of assisting organizations to collect and benefit from user-driven insights into how they could design or improve their products and services. Fortune 500 companies like Dell and Starbucks have used similar models of customer engagement - Dell's IdeaStorm site has received over 19,000 submissions and more than 700,000 votes. When thinking about creating this certification, I knew it would be key to ensure that it wasn't just an echo chamber of my colleagues and I coming up with indicators based on our experience in program development and education. The generous folks at UserVoice had donated their platform for our use at TakingITGlobal, and I couldn't think of a better way to implement a participatory design process for Future Friendly

Schools, and highlight the value of Student Voice: I would create a UserVoice site to allow anyone, anywhere in the world, to prioritize and contribute the indicators for the certification.

To seed the process with an initial set of indicators for voting and to inspire participation, I reached out to the instructors leading TakingITGlobal's online professional development courses in each of these areas, combining their suggestions with some ideas from the EcoSchools certification guide, developed by Stephen Bibla for the Toronto District School Board. I also recruited an esteemed group of advisors to form a steering committee (Appendix A), who were invited to an online community where they could provide feedback on the indicators before they were "released" for public comment and "judging" through UserVoice.

On February 26, 2013, the UserVoice site was launched and promoted over the following weeks with an e-mail blast to TakingITGlobal's network of members and educators, along with the networks of many of the steering committee members. As of April 25, 2013, the UserVoice process has resulted in over 4,000 votes and 140 new ideas submitted for consideration by the community and our team. A number of the user-submitted ideas duplicated or were very similar to others posted, which led to unnecessary duplication of options and potentially dilution of votes. On a daily basis, UserVoice sent me an e-mail outlining new idea submissions, and in a few cases, I used an administrative tool to merge any exact duplicates to avoid confusion. I also removed any inappropriate submissions, which were few - most often users new to the process simply were using the idea submission box to write comments expressing interest in participation. After consulting as a team, we decided not to remove or merge ideas that could be interpreted as having small differences, but instead would group these together during the next step.

How would we decide which of the indicators to include in the certification's assessment? As a first step, we exported all of the indicators from UserVoice, and performed a qualitative assessment of the suggestions, grouping them into themes, which would become "Principles" under each value area. We decided that to simplify the process, schools would submit evidence of these Principles, as larger thematic groupings, rather than to the more specific indicators. To select the indicators themselves, we developed a weighted scoring model comprised of the following elements:

Element	Initial	Revised
Number of Votes Received	30%	20%
Relevance to Value Area	40%	20%
Connection to Project-based Learning	5%	15%
Connection to Immersive ICT Use	5%	15%
Ability to measure quantitatively	10%	20%
Ability to measure qualitatively	10%	10%

Table 1: Weighted scoring model for indicator selection revised with steering committee input

To assign the weightings to the elements, we surveyed our steering committee to balance the elements with their input, resulting in several revisions to my initial thoughts about weighting, as documented in the table above.

This process led us to adopt 2-3 indicators for each Principle within the value areas, which will be incorporated into a survey to be provided to students and educators at participating schools.

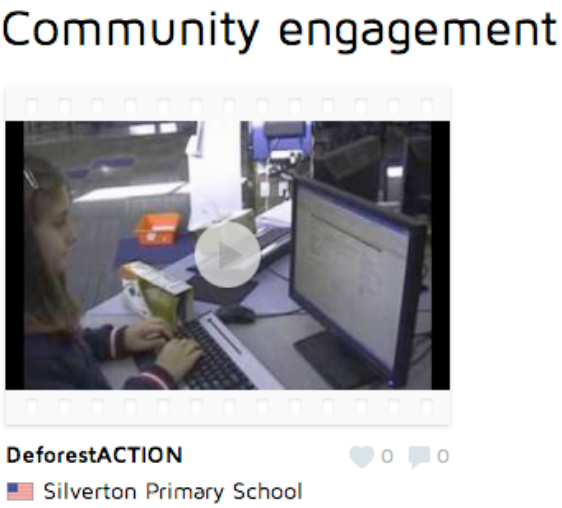

Figure 2: Sample principle with school evidence

To obtain an overall score to be used in awarding (or not awarding) a certification level, several inputs will be totalled. The idea behind combining evidence submissions and quantitative survey inputs is to cross-validate the commitment: requiring evidence means that eager faculty or students won't be able to earn the certification simply through collusion to complete the survey with a positive score, while the survey helps to ensure that the evidence isn't simply the product of a single or small group of educators, but that the values are being embedded into teaching and learning across most of the school. The certification inputs will be weighted as follows to calculate an overall score:

Inputs	Points /100
Evidence of practices supporting each of the Future Friendly School Principles	50 points
Survey results from educators at the school affirming the school's commitment to supporting the Future Friendly School values	25 points
Survey results from students at the school affirming the existence of practices supporting the Future Friendly School values	25 points
Evaluation of a reflective text from the school leadership and/or school certification coordinator providing additional details to consider	Up to 10 bonus points
In the following years, a peer interview from another school leader to evaluate and provide feedback on the school's vision and progress	10 points (reducing evidence score)

Table 2: Inputs to determining overall certification score

If a total score of at least 70 is received across the certification inputs, schools will be awarded one of the following certification levels:

Level	Score required
Platinum (launching 2014)	3 years as a Gold School and a score of 90+
Gold	85+
Silver	80+
Bronze	70+

Table 3: Certification levels with required score to obtain each

A key element of the program will be public school profiles, showcasing highlights from each school's evidence submissions, and offering a public glimpse into the good practices that help to communicate the core principles in each value area, and also fostering increased knowledge sharing amongst the community. This idea was inspired by diy.org, a new initiative for youth to develop real-world skills, with a similar model of showcasing evidence through a public gallery of videos and photos. While I'm sure that some schools may initially be unsure about this public display of their practices, I am convinced that the positive attention, comments and "likes" that these submissions will receive will enable them to see the value of more open sharing over time.

Designing the Brand

The overall brand design process for the certification program began with selecting a name. I don't remember exactly how the name came about during a brainstorming session with many options flying about, but something about it felt right. I wanted the brand to evoke a feeling that no-one would want to disagree with - avoiding any

loaded terms or buzzwords - who wouldn't want to be a Future Friendly School? To test out my assumption, I purchased a Google Consumer Survey to see whether the name "Future Friendly Schools" would actually be attractive to a prospective parent deciding between schools, asking the question "If you had a choice of sending a child to schools with different certifications, which would you choose?". In a sample of 1,000 individuals weighted to represent the internet population, "Future Friendly Schools" came in first in popularity of four names - the others established brands in schools - International Baccalaureate, Microsoft Innovative Schools, and EcoSchools, so I decided the brand name was strong enough to proceed with.

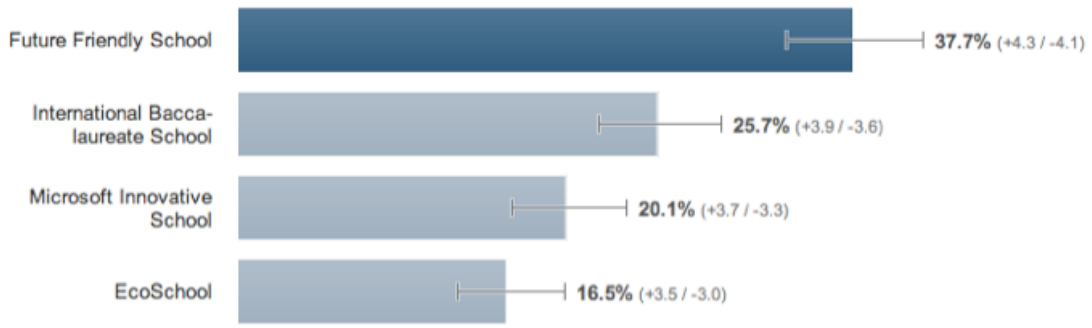

Figure 3: Results of Canadian Google Consumer Survey on "Future Friendly Schools" name

When approaching the creation of the brand identity for Future Friendly Schools, I wanted to ensure that any visual elements created provided flexibility to ensure the program could rapidly evolve with the community's input, and that they were independent enough from TakingITGlobal's brand and style that partners would feel the project was truly an independent initiative.

I contracted Pixomatica, a small design studio in Moscow, Russia, to produce the logo for Future Friendly Schools. They provided four design concepts, and while I quickly had my favourite selected, after sharing the concepts with several steering committee members, the feedback was very conflicted. I wanted to find a way to test

the logo concepts to receive impartial feedback, and so I purchased two Google Consumer Surveys to test the four logo concepts with 1,000 random individuals weighted by age and gender to be representative of the Canadian and US Internet populations. A statistically significant winner emerged, and was selected as the visual identity.

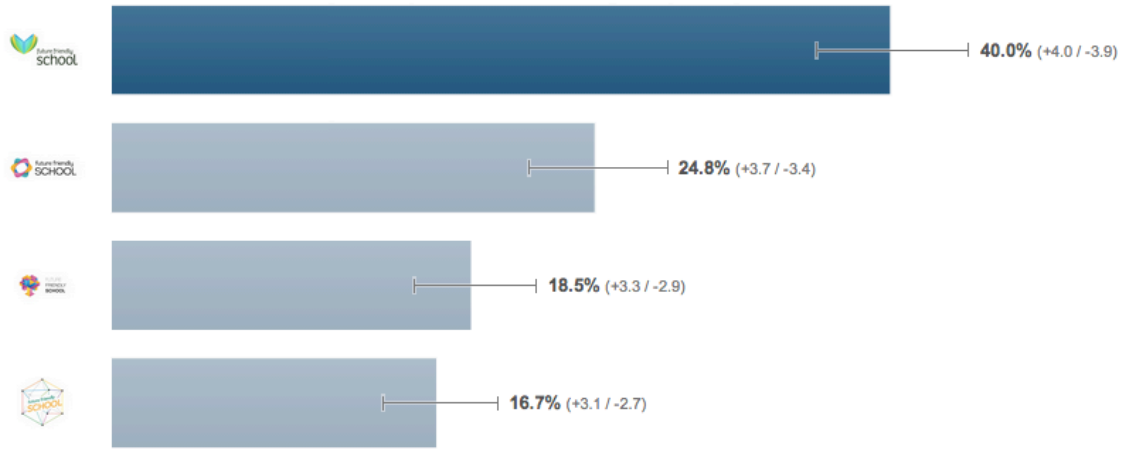

Figure 4: Results of Canadian Google Consumer Survey on logo preference

Figure 5: Selected brand identity proposal created by Pixomatica

Sustainability and Equity

To ensure the program is sustainable, a fee structure was developed and refined with feedback from school leaders. Publicly-funded schools pay an annual fee of $1,000-$2,500 for certification, depending on student enrolment. To ensure access for all schools regardless of financial resources, any privately-funded school joining the program is asked to pay double the fee of a publicly-funded school, with the additional resources used to sponsor the participation of a less-resourced "sister school".

Launching the Program

While I have been speaking about my intention to design and launch this program for several months at education conferences across the globe, the program was formally announced in June 2013 at the International Society for Technology in Education (ISTE) conference in San Antonio, Texas. The launch included issuing a press release to attract media attention, and launching the program web site with resources, research and examples (www.futurefriendlyschools.org). In September, we will release three white papers to provide compelling narratives on each value area.

In 2013, I hope to recruit 5-10 schools per region of the world to participate in the program as founding schools (the first 10 who sign up in each region will be permanently recognized with this title) - and work closely with these schools to get feedback on each component of the certification process in preparation for handling a larger volume in schools in the coming year.

I have already secured the participation of several founding schools. The incoming superintendent of the American School Foundation of Monterrey (Mexico) heard my keynote at the AdvancED summit in Atlanta last November and has since committed to their participation. In Canada, two schools in the Holy Family Catholic School District in Alberta have pre-paid for their participation through their commitment to a Taking Alberta Global proposal TakingITGlobal developed, and 3-4 schools in the Toronto District School Board will participate as part of a professional learning partnership we conducted with them in Spring 2013. LEARN Quebec has committed to funding the participation of two schools, and I'm now reaching out to high-potential international participants following the web site launch, in the hopes of securing the resources to recruit a dedicated program manager.

Contributions to Inclusive Design

I hope that my experimentation with the UserVoice tool as a method of crowd-sourcing user input and design feedback provides a useful beacon for those embarking on projects that could benefit from an online platform to solicit, organize, and provide a sorting mechanism for this type of feedback. I also hope that the emphasis on student voice and project-based learning will benefit those learners currently marginalised, inspiring their educators to co-create an inclusive learning environment with them that meets their needs before it's too late.

Contributions to Education Reform & Certifications

In the complex and often closed-door world of Education Reform, my hope is that the process through which I've developed this program inspires and challenges those embarking on journeys to improve education systems around the world to open their planning to all stakeholders. In addition, I hope that the process by which schools submit and share their practices and evidence with the community is seen as an opportunity by other school certification programs as an opportunity for increased knowledge sharing. When speaking with schools who undertake these efforts, many spoke about the lack of a digital approach and the fact that they feel like their hard work ends up sitting in a binder on a bookshelf.

Future Directions

In the second year of the program, I plan to launch a certification offering for post-secondary institutions, following a collaboration with several who are already interested in helping to adapt some indicators to a higher education context.

I would also like to obtain funding for a research project to evaluate and understand the outcomes of the Future Friendly Schools program as they relate to inclusion, development of "21st century skills", and student engagement.

By 2020, I hope to have more than 1,000 schools participating in the program, sharing their innovative practices with each other and working to create learning environments that engage all students and inspire them to create a friendly future for us all.

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Appendix A: Future Friendly Schools Web Site

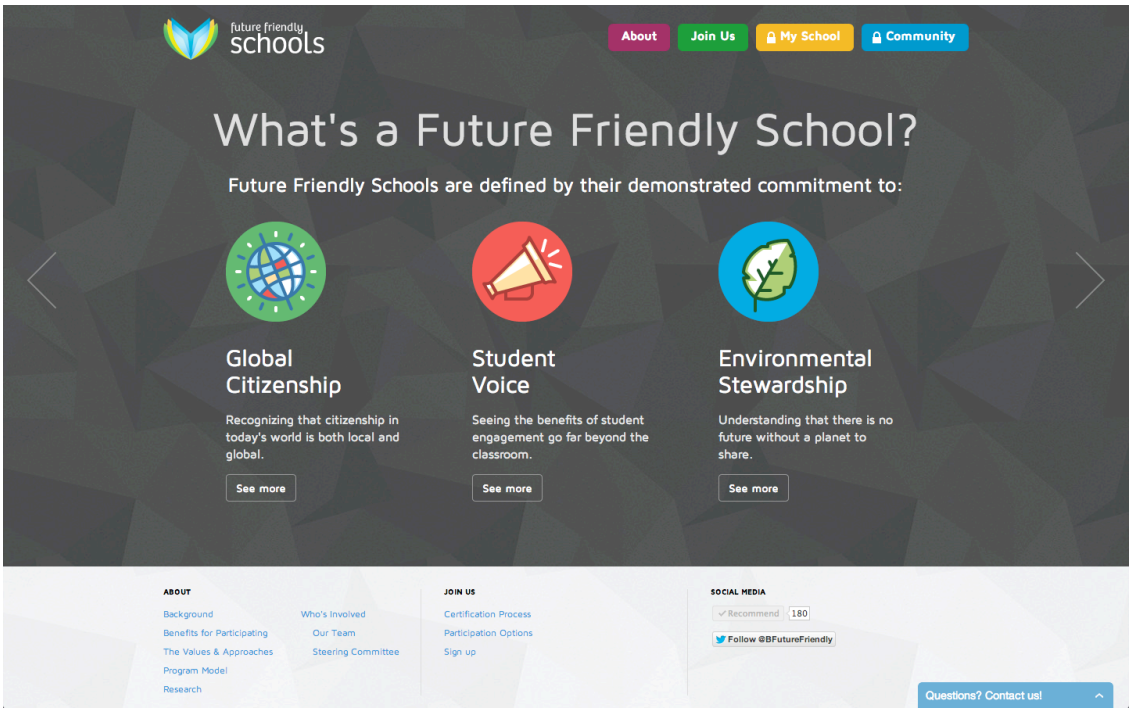

Figure 6: Future Friendly Schools web site homepage (www.futurefriendlyschools.org)

Figure 7: Future Friendly Schools value page for Student Voice with evidence examples