Promethean Thinking Deeper Research Paper No. 6

From Learner Voice to Emerging Leaders

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Sponsor: Jim Wynn of the Promethean Education Strategy Group

Promethean Thinking Deeper Research Papers Series sponsors leading experts to conduct and report on cutting-edge thinking and state-of-the-art global academic/ policy knowledge with respect to the role of new technologies (innovative tools and organisation) in meeting the challenges of learning in the 21st Century.

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Introduction

Imagine a world where every student felt a deep sense of ownership and excitement over their learning experience. How might they pursue their curiosities as quests and how could educators best assist them in bringing their ideas to life?

Around the world, 'learner voice' is gaining ground as an important topic and strategy for teaching and learning. David Hargreaves defines 'student voice' as a process by which learners come to play a more active role in their education. Expanding on this, Pat Thomson suggests that 'voice' is the right for learners to express opinions, access people who influence decisions, and exercise active participation in educational decision-making processes.[i] Empowering learner voice ensures education is relevant and engaging learners in a meaningful way.

Yet, cultivating learner voice should not be an end unto itself. While learner voice supports the idea of equitable decision-making for the advancement of teaching and learning, it also presents a pathway for redefining education for the 21st Century, where education cultivates future global leaders; those who will be entrusted to steer our world through the various global challenges that we will both inherit and come to discover. How can learner voice develop the skills required for future leaders? How can learner voice shape a future-friendly education?

Learner (Dis)Engagement

One of the key components of learner voice is supporting learner engagement in education. Learner engagement can be understood as the "sustained connection a learner has to a topic, teacher, students, school or educative process they're engaged in".[ii] However, this sustained connection is at an all time low as learners are not feeling engaged in their school experience.

For example, the Canadian Education Association's What did you do in school today? research initiative showed that 82% of students in grade 5 are intellectually engaged in their learning but that this engagement falls as they progress. By grade 12, only 45% of students are engaged in their studies. In a similar survey, upon entry in middle school, a majority of US students felt they had a voice. But by the 12th grade, this dropped to one-third. More alarmingly, students who feel their schools do not provide opportunities to express their voices were twice as likely to say they are bored at school, and almost three times as likely to not enjoy being in school at all.[v]

While educational success is important to learners, there is a disconnect between what is discussed in the classroom and what happens outside school walls.[vi]

What can this disconnect be attributed to?

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Rise in Global Challenges

We are living in a time of unprecedented global challenges. With issues like climate change, war and disease spilling over national borders,[vii] the various challenges of the 21st Century leave us with a future marked by uncertainty. What have been described as "wicked problems"[viii], these complex issues:

- Don't present a clear set of alternative solutions— different "solutions" can create or exacerbate other problems
- Tend to be characteristic of deeper problems
- Have redistributive implications
- Tend to be persistent and insoluble[ix]

Do learners feel their current education adequately prepares to navigate through these global challenges? In a 2012 survey conducted in the United States, only 12% of high school graduates aged 18-24 felt their education helped them understand the root of global issues.[x]

Rapid Pace of Technological Change

In addition to global challenges, today's rapidly changing technological landscape is shifting the way youth communicate with one another. With greater use of Information and Communication Technologies (ICTs) worldwide, social interactions are more frequent and moving beyond national borders.[xi] Today's learner is engaged in diverse online networks and communities that shape the way information is received and understood. Instead of just reading a textbook and responding to a question, technology creates forums where learners can share information, engage in dialogue with peers the world over and contribute to diverse perspectives. In essence, learners are engaged in co-creating knowledge in their everyday lives. Yet, classrooms are moving very slowly to embrace this shift.

As one youth notes:

> Whenever I go into class, I have to power down… what I do with digital technology outside school - at home, in my own free time - is on a completely different level to what I'm able to do at school. Outside school, I'm using much more advanced skills, doing many more interesting things, operating in a far more sophisticated way. School takes little notice of this…[xii]

Bridging the gap between how students live and how they learn not only makes education relevant to the learners' world,[xiii] it may also encourage the development of skills needed to adapt to changing global conditions.

Changing Nature of Labour

When looking at the global labour market, youth unemployment is on the rise. With a projected rate of 12.9% youth unemployment by 2017[xiv], in addition to many countries with rates comfortably exceeding 25%, learners may not be developing the skills required to obtain meaningful employment, undermining long term global economic and social development.[xv] In light of this, youth are being entrepreneurial and creating their own opportunities. Recent surveys have noted an increased desire and creation of self-owned youth enterprises — a poll of Americans aged 18-34 found that more than half would like to start or have already started their own business, while a scan of four million Facebook profiles of people aged 18-29 highlighted not only how youth want launch their own start-ups (or had already done so) but that they prefer to work for start-ups than established companies.[xvi] For those engaging with established companies, they feel an understanding of global interconnectedness is important due to the increasingly global nature of work: 80% of high school graduates aged 18-24 believe that jobs are becoming increasingly international in nature while 60% believe they would be more effective employees if they had a stronger understanding of global cultures.[xvii]

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Considering the combination of these trends and shifts - the rise in global challenges, the rapid pace of technological advancements, and the changing nature of the labour market – how can today's learner be prepared to make headway in a future marked with uncertainty? Within education circles, 21st Century skills are often highlighted as critical to develop and integrate into teaching and learning to prepare learners for the future. Some of the skills most frequently cited include: critical thinking, creativity, and collaboration,[xviii] which learners themselves are beginning to recognize as necessary to bridge disconnects between their education and the outside world. As such, listening to learner voice may present the opportunity to nurture the 21st Century skills needed to adapt to change, build an entrepreneurial spirit, communicate effectively across borders, and cultivate the leadership necessary to navigate through the future. How can we engage in dialogue with learners to ensure that their education is future-friendly?

Learner Voice for Educational (Re)Engagement

Including learner voice in educational decision-making creates meaningful opportunities for learners to (re) engage with their education. The responsibility to shape and co-create educational experiences not only makes for an environment of democratic education[xix], but supports learners in developing a shared commitment to shape both their own futures and the future of the planet.[xx]

With this in mind, curriculum and pedagogical practices evolved in the early 20th Century may not be keeping pace or maintaining relevance with the changing global environment.

Curriculum Design

When thinking of curriculum design, how do learning outcomes, teaching and learning tasks and assessment criteria reflect an educational experience relevant to 21st Century learners? During the Industrial Age, curriculum was designed for a future that was seemingly predictable and based on expert knowledge

> The knowledge necessary to function successfully and follow a career was seen to already exist: it could be handed down from experts and leaders to learners and workers. In the Industrial Age, curriculum development was a matter of selecting the most important knowledge to transmit to students; experts decided what knowledge to mass-prescribe and in which sequence.[xxi]

Yet, this model of curriculum development is difficult to maintain given that: it is no longer possible to accurately predict the type of knowledge youth may need as they move through life, the rapid pace at which technology is changing and new knowledge is developing, the rate at which career possibilities are proliferating (ones with which we are familiar and ones we have yet to imagine), and social, economic and environmental challenges are becoming increasingly complex.

How can learner voice help address these uncertainties? By giving learners an authentic say in what and how they want to learn. In this way, education is building the capacity of learners, rather than reinforcing their dependency.

By including learner voices in the conversation, learners contribute towards creating educational outcomes and experiences that better reflect local, community, regional and global realities. Even young learners can identify things that can be improved from their most immediate community – their family – an enterprising spirit that can be built upon in school. In this way, learner voice works towards strengthening connections between educators and the students they work with.[xxii]

When moving from a highly centralized curriculum design process to one that involves student-driven decision making, the role of educators and school leaders is key; they open the doors for dialogue on curriculum issues. In a survey done with educators working on

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student voice projects in the UK, there was shared recognition that listening to learners' perspectives in curriculum reviews is beneficial to all, supported by the belief that learner voice contributes to higher level of student confidence and developing self-esteem. This can also support 21st Century skills such as critical thinking and collaboration, which are exercised in dialogue on curriculum design and development. More so, including learner voice can dispel any feelings of distrust that curriculum is something 'imposed', but rather shared and co-created to better reflect the learner's reality and promote engagement with their educational experience.[xxiii]

Some examples of how this can be done include:

- Creating learning partnerships between teachers and students, where students observe an agreed learning focus in lessons and provide feedback to teachers;
- Inviting students to be departmental advisors, attending department meetings to help shape curriculum, and;
- Having students undertake research and investigate learner views on curriculum standards and outcomes, or any other questions related to teaching and learning, and making recommendations to teachers and educational system leaders.

Pedagogical Practices

Teaching for the achievement of high scores on standardized tests may not equate to a new generation equipped with the skills to understand and act on global challenges, which, due to their complexity, can no longer be solved with "straightforward puzzle-solving or mathematical solutions". These challenges necessitate bringing together different perspectives to devise holistic solutions, in a way that "all the 'voices' (are) heard and responded to by the others".[xxiv] This can begin by developing learning experiences informed by a diversity of opinions, which also serve to illustrate the types of incentives and motivations learners need to engage in their education.

Students across Ontario, Canada shared that the key to learner engagement was encouragement, made possible through: hands-on learning opportunities, connecting with their peers and motivation through real-life examples.[xxv] In another study, students in China acted as co-researchers to present their views on pedagogically change in Chinese schools – specifically how students made sense of the movement towards inquiry-based learning in the classroom. For learners, it was a shift away from the entrenched "testing" culture of the Chinese education system that involved memorization to opportunities for learners to provide their own insight for topics on which they are normally tested. For administrators and educators reviewing the study, it clearly demonstrated the importance of listening to learner voice and the need to work with students to improve pedagogical practices in schools.[xxvi]

Can learners set their own achievement standards? John Hattie's educational research, which spans over 800 meta-analyses, 52,637 studies and 240 million students, identifies that the top ranked influence on student learning are self-reported grades and student expectations. By giving learners…

…Opportunities to be involved in predicting their performance, clearly making learning intentions and success criteria transparent, having high but appropriate

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expectations and providing feedback at the appropriate levels is critical to building confidence in successfully taking on challenging tasks.[xxvii]

Educational engagement does not need to be solely incentivized through high grades and expectations set for learners, but through trusting and supporting learners to develop expectations of themselves.
This can act as one of the most powerful influences in enhancing student achievement, and is a form of evaluation consistent with learning experiences that are collaborative and learner-directed.

Some examples of how this could be accomplished include:

- Facilitating personalized learning experiences, which caters to diverse learning styles by encouraging students to find and follow their own learning pathways towards a common goal;[xxviii]
- Fostering inquiry and problem-based learning models, where learning involves working collaboratively with others to answer questions (ideally) based on real life situations and developed in partnership with students;
- Creating opportunities for experiential learning, and;
- Co-creating success criteria and rubrics to evaluate teaching and learning experiences.

By facilitating learning experiences that ask questions based on real-life scenarios, looking for creative and new ways to understand an issue, communicating with others to gain multiple perspectives, and collaborating with peers to develop answers, educational experiences with learners in the driving seat help nurture the necessary skills to meet the demands of a changing world. More so, self-directed pedagogical practices challenge the assumption that students are passive recipients of education due to a perceived lack of knowledge that must be imparted to them by educators who 'own it'.[xxix] When it comes down to it, educators must come to trust that learners can engage in knowledge without being led to it.[xxx]

Role of Technology in Empowering Learner Voice

Technology presents a clear area where learners can take a leading role as innovators and initiators of educational-related change. As some of the earliest adopters of ICTs, young people are the driving force behind the emerging global information society. Internet-based technologies, particularly social networking technologies, act as a conduit for young people to share ideas, exchange information and co-create knowledge.[xxxi] More so, they can act as a powerful vehicle to cultivate and amplify learner voice in education.

As part of self-directed pedagogies, technology can play a role in empowering learner voice to shape educational experiences. In a survey of students on the role of technology in education, many noted that the internet can bridge disparate locations for synchronous and asynchronous discussions.[xxxii] The inclusion of ICTs and social networking technologies can bring learning to life by opening up dialogue and communication with others around the world. As one educator noted, cultivating learner voice in these online forums had changed the learning experience from engaging only class group work to collaborating with others around the world. In turn, this encouraged learners to adopt more diverse, multi-dimensional, points of view allowing real life and informed opinions.[xxxiii]

Through these opportunities, learners become empowered by sharing their voice through interactions with others with the knowledge that there is an audience genuinely listening. As such, the learners' voice is authenticated on a larger scale. Even for young learners, the potential social networking presents to develop critical reflection on teaching and learning is evident. For a year 1-2 class in the UK, sharing small pockets of information through Twitter not only encouraged the development of digital literacy skills, but promoted evaluation on the work the were producing. When tweets were responded to, learners became more

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conscious and worked towards developing more nuanced answers. More so, it engaged learners that were typically disengaged.[xxxiv] In this way, learner voice amplified through the use of technology not only supports development of 21st Century skills like critical thinking and communication, it creates a bridge between the classroom and the outside world.

Learners are also in a unique position to inform teacher professional development on the use of ICTs. Teachers surveyed on the use of technology in classrooms across Canada highlighted that while they believe technology can exponentially increase student engagement in the classroom, 40% felt they lacked the professional development to foster the use of technology.[xxxv] For a school in New Zealand, learners took it upon themselves to inform the integration and use of ICTs into the curriculum through teacher mentoring. Known as the "Tech Angels", this student-run group at Wellington Girls' college adheres to a simple philosophy: to challenge the way everyone learns, both students and teachers. Their goals are:

> To give teachers the tools to improve the way in which they use ICT in the classroom environment. We passionately believe that the more familiar educators are with the digital environment in which young people live, the better equipped they will be to teach, understand, influence and inspire their students.[xxxvi]

By informing ICT curriculum and school policies in this way, the Tech Angels demonstrate how learner voice can challenge traditional educational power structures by enabling learners to become educators themselves. The school environment becomes a community of learners, where educators and learners working together towards common goals.

Using technology to inform teaching and learning is also being mirrored in educational policy-making forums. In Canada, the government of Alberta has begun to leverage the use of social networking to interact with students and

solicit feedback and insight on province-wide educational policies. Alberta Education, the provincial educational arm, has constructed a website called "Speak Out" which allows students to express their views about the future of education in Alberta.[xxxvii] While there are questions as to how these views are incorporated into decision-making, and whether learners can actually participate in policy dialogue,[xxxviii] technology can meet the needs of today's networked learner by amplifying their voice through mechanisms they are already comfortable using. TakingITGlobal and the International Society for Technology in Education (ISTE) held a global student consultation on the future of education, with hundreds of online participants selecting four peers to travel and present their views to educators and system leaders at special events. The students summarized their perspectives through four recommendations: Effective learning involves a partnership between teacher & student, education should respect and assist in our goals, technology is a tool, not a course, and our environment affects our learning.

Learner Voice in National and International Education Policy

As with the example of the Government of Alberta, there is growing recognition on the importance of including learners in educational policy-making as governments and international bodies begin to institutionalize learner voice in decision-making processes. In Canada, the provinces of Ontario (since 1998) and New Brunswick (since 2009) have mandated student representatives in all school boards. Through this model, learner input has resulted in the development of mental health and cyber-bullying policies, student input on curriculum design, and the elimination of water bottles from all schools in a school board.

On an international scale, during the most recent Conference of Commonwealth Education Ministers, the Commonwealth Student's Association was officially formed to "act as the organized youth voice in education

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to facilitate Commonwealth-wide access to deliberations and, ultimately, policy outcomes that will shape the future of education".[xxxix] Through direct consultation with ministers of education from across the Commonwealth, student leaders can better represent the diverse interests of learners on decisions that affect them.

Intermediary organizations like non-profits and private institutions are bringing together key decision-makers and thought leaders in cross-border dialogues on education-related issues with learners from around the world. The Education Fast Forward Debate series, coordinated by Promethean Planet, held a student debate in collaboration with TakingITGlobal and Peace One Day to explore the challenges and opportunities associated with learner voice and the potential for fostering student action to make positive change on conflict reduction and resolution.

Global conferences and events, such as the International Society for Technology in Education (ISTE), Education World Forum (EWF), and the New Media Consortium (NMC) Summer Conference are also make greater strides to include learner voice in dialogues on the future of education. For example, in the most recent EWF in 2012, emphasis was placed on ensuring learner voice was not isolated, but that learners act as partners in shaping policies and addressing the many issues faced by emerging nations. To facilitate this, governments have a critical role to play in giving students a voice by including them on advisory councils, providing them with a platform and supporting opportunities for informal exchanges.[xli]

While learner voice is increasingly recognized on a wider scale the question remains: How can this be taken one step further to invest in learner's ideas, or better yet, supporting learners to bring their own ideas to fruition? One example includes the Ontario Ministry of Education "Speak Up" program, which provides student groups in grades 7-12 with small grants to design and implement projects with support of their learning community. To date, thousands of students have led or participated in over 5,000 projects in hundreds of schools across

Ontario.[xlii] Similarly, the Education Fast Forward debate series recognizes student leaders through financial awards to help them continue their work in advancing learner voice in education.

Including learner voice in national and international educational policy-making forums, and investing in resulting ideas, encourages learners to practice and assume leadership roles and develop a sense of active citizenship in their schools, local and global communities.[xliii] In essence, it is the ripple effect of developing learner voice in schools – by having learners engage in their education now, there is great potential for education to cultivate young people who are inspired, informed and involved in problem solving for the future.

Conclusion

This paper has brought together perspectives on how learner voice can not only shape policy and practice to ensure that education is relevant, engaging and meaningful for learners in the 21st Century, but that empowering learner voice in education develops the skills and competencies required for young people to become the architects and problem solvers of their own, albeit uncertain, future.

Learner voice begins in a relationship of mutual trust between the educator and the learner, where students feel like they have a voice, that this voice is being heard, and that their opinions are being acted upon. From this relationship grows the potential for education to become a forum where learners, educators, and the community-at-large are co-producers of teaching and learning through a collaborative process.

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Recommendations for Policy Makers, Educators and Students

Recommendations for Policy Makers

1) Ensure research and policy-decisions are accessible and proactively communicated learner communities.
2) Develop professional learning programs for school and board-level administration on meaningful ways to include learner voice in policy decision-making.
3) Develop a student leadership model that places democratically elected student representatives in policy-making forums at various levels (school, board, governmental).
4) Provide financial support and mentorship to student-led initiatives and ideas that strengthen school communities and support engagement in learning objectives.

Recommendations for Educators

1) Cultivate relationships of trust with learners and develop partnerships on decisions related to teaching and learning in the classroom (e.g. curriculum, pedagogy, learning resources).
2) Develop strong communication channels with learners to ensure all school-related information is shared and accessible.
3) Keep learners' experiences and interest at the centre of teaching and learning — encouraging learners to focus on areas which they are knowledgeable and passionate signals that their thoughts and experiences are valued, and that educators are also still in a process of learning .
4) Ensure that opportunities for learners to showcase their work to authentic audiences.
5) Explore the value of personalized and problem-based learning approaches as part of a wider mandate to embed a learner-centered agenda in the classroom.

Recommendations for Students

1) Be responsible for ensuring learner voices are heard at your school and that your learning needs are met.
2) Learn more about the structure of educational institutions in your area (school, board, regional and national government) and the key decision-makers to understand how decisions are made regarding teaching and learning.
3) Begin connecting to your learner community — what are the main issues faced by peers? How might you mobilize your community collectively do to address these issues?

So, where to begin? Build capacity through learner voice, listen to learners' ideas and invest in them!

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Gavin Dykes has over 25 years experience of strategy and policy for education. His major focus throughout that time has been on innovation and the use of technology to support learning. A strategic thinker, he has contributed to and led e-learning strategy and policy development in a range of countries and for international organisations. Gavin is passionate about amplifying learner voice and developing enterprise in education.

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Endnotes

i Thompson, Pat. "Coming to Terms with 'Voice'." *The International Handbook of Student Voice*. Eds. Gerry Czerniawski and Warren Kidd. Bingley: Emerald, 2011.

ii Fletcher, Adam. Locating Student Voice. King County Youth Development Network, 12 Oct. 2012. <http://kcydn. pugetsoundoff.org/node/26585>

iii *What Did You Do in School Today Infographic*, Canadian Education Association, 7 Jun. 2011. <http://www.cea-ace.ca/ publication/what-did-you-do-school-today-infographic>

iv My Voice National Student Report (Grades 6-12), Quaglia Institute for Student Aspirations. <http://qisa.org/ publications/docs/MyVoiceNationalStudentReport(Grades6-12)2011.pdf>

v Ibid.

vi Ibid.

vii *Climate Change and Health*, World Health Organization, Oct. 2012. <http://www.who.int/mediacentre/factsheets/ fs266/en/index.html>

viii Bolstad, Rachel. *Taking a " future focus" in education, what does it mean?*. NZCER working paper from the Future-Focussed Issues in Education (FFI) project, May 2011. <http://www.nzcer.org.nz/system/files/taking-future-focus-in-education.pdf

ix Ibid.

x *World Savvy: 2012 Global Competency Survey*. World Savvy. <http://worldsavvy.org/about/why-need/world-savvy-global-competency-research-results/>

xi Castells, Manuel. "Informationalism, networks, and the network society: a theoretical blueprint." *The Network Society: A Cross-cultural Perspective*, Ed. Manuel Castells. Cheltenham: Edward Elgar, 2004.

xii Puttnam, Lord. *In class, I have to power down*, The Guardian, 7 May 2011. <http://www.guardian.co.uk/education/2007/ may/08/elearning.schools

xiii The Partnership for 21st Century Skills. <www.p21.org>

xiv *Global Employment Outlook: Bleak Labour Market Prospects for Youth*, International Labour Organization, 4 Sept. 2012. <http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/publication/ wcms_188810.pdf>

xv *Educating the Next Wave of Entrepreneurs*, World Economic Forum, Apr. 2009.

xvi Lent, Adam. *Generation Enterprise: The Hope for a Brighter Economic Future*, RSA Research and Action Centre, Sept. 2012. <http://www.thersa.org/__data/assets/pdf_file/0010/724546/Enterprise-Generation-Enterprise_RSA.pdf>

xvii *World Savvy: 2012 Global Competency Survey*, World Savvy. <http://worldsavvy.org/about/why-need/world-savvy-global-competency-research-results/>

xviii *Framework for 21st Century Learning*, The Partnership for 21st Century Skills, <http://www.p21.org/overview/skills framework>; Mullis, Gill. "Student Voice: Changing Practice and Developing Partnerships." *The International Handbook of Student Voice*. Eds. Gerry Czerniawski and Warren Kidd. Bingley: Emerald, 2011.

xix Fielding, Michael. *Student Voice and the Possibility of Radical Democratic Education: Re-Narrating Forgotten Histories, Developing Alternative Futures*. FORUM, Volume 43, No. 2, 2001. <http://schoolsites.schoolworld.com/schools/GVBOCES/files/ filesystem/Beyond%20the%20Rhetoric%20of%20Student%20Voice.pdf>

xx Bolstad, Rachel. Taking a *" future focus"* in education, what does it mean?. NZCER working paper from the Future-Focussed Issues in Education (FFI) project, May 2011. <http://www.nzcer.org.nz/system/files/taking-future-focus-in-education.pdf; *The Starterpack - Futures Thinking in Education*, OECD Schooling for Tomorrow Series. <http://www.oecd. org/education/preschoolandschool/38988392.pdf>

Authors: Gavin Dykes, Michael Furdyk, Sara Hassan and Jennifer Corriero
Sponsor: Jim Wynn of the Promethean Education Strategy Group

Endnotes

xxi Bolstad, Rachel and Jane Gilbert. "Disciplining and drafting, or 21st century learning? Rethinking the New Zealand senior secondary curriculum for the future." Wellington: NZCER Press, 2008.

xxii *Student Voices Project Report*, TakingITGlobal and ISTE. <http://www.tigurl.org/images/resources/tool/docs/1887.pdf>

xxiii Waters, Mick. *"Setting the Learning Agenda: Can Pupils Do That?."* *The International Handbook of Student Voice*. Eds. Gerry Czerniawski and Warren Kidd. Bingley: Emerald, 2011.; Student Voices Project Report, TakingITGlobal and ISTE. <http://www.tigurl.org/images/resources/tool/docs/1887.pdf>

xxiv Bolstad, Rachel. *Taking a "future focus" in education, what does it mean?*. NZCER working paper from the Future-Focussed Issues in Education (FFI) project, May 2011. <http://www.nzcer.org.nz/system/files/taking-future-focus-in-education.pdf>

xxv *Lending a Hand (Condensed Version)*, Ministry's Student Advisory Council, Ontario Ministry of Education, 16 Mar. 2012. <http://www.youtube.com/watch?v=W1b1RtP_K3Q&feature=watch_response>

xxvi Kan, Wei. "Students' Experiences of Enquiry-Based Learning: Chinese Student Voices on Changing Pedagogies." *The International Handbook of Student Voice*. Eds. Gerry Czerniawski and Warren Kidd. Bingley: Emerald, 2011.

xxvii Hattie, John. *"Visible Learning – A Synthesis of Over 800 Meta-Analyses Relating to Achievement."* Oxon: Routledge, 2009.

xxviii Fielding, Michael. Student Voice and the *Possibility of Radical Democratic Education: Re-Narrating Forgotten Histories, Developing Alternative Futures*. FORUM, Volume 43, No. 2, 2001. <http://schoolsites.schoolworld.com/schools/GVBOCES/files/filesystem/Beyond%20the%20Rhetoric%20of%20Student%20Voice.pdf>

xxix Friere, Paulo. *Pedagogy of the Oppressed*. New York: The Continuum International Publishing Group, Ltd., 1993.

xxx Jagersma, John and Jim Parsons. *Empowering Students as Active Participants in Curriculum Design and Implementation*. New Zealand Journal of Teachers' Work, Volume 8, No. 2, 2011. <http://www.teacherswork.ac.nz/journal/volume8_issue2/jagersma.pdf>

xxxi Furdyk, Michael, and Sean Keith. "Global Education as a Catalyst for Social Change." *New Directions in Social Education Research – The Influences of Technology and Globalization on the Lives of Students*. Ed. Brad M. Maguth. Charlotte: Information Age Publishing, 2012.

xxxii *Student Voices Project Report*, TakingITGlobal and ISTE. <http://www.tigurl.org/images/resources/tool/docs/1887.pdf>

xxxiii Quote from educator participating in TakingITGlobals' environmental education program DeforestACTION (www.deforestaction.org)

xxxiv Waller, Martin. "'Everyone in the World Can See It' Developing Pupil Voice through Online Social Networks in the Primary Classroom." *The International Handbook of Student Voice*. Eds. Gerry Czerniawski and Warren Kidd. Bingley: Emerald, 2011.

xxxv *Canadian EdTech Teacher Survey*, Mindshare Learning, Nov. 2012. <http://mindsharelearning.ca/wp-content/uploads/2012/11/MSL_infographic_FINAL_flat-12.pdf>

xxxvi Tech Angels. <http://www.techangels.org.nz/about.html>

xxxvii *Speak Out – Alberta Student Engagement Initiative*, Alberta Government. <http://www.speakout.alberta.ca/>

xxxviii Jagersma, John and Jim Parsons. *Empowering Students as Active Participants in Curriculum Design and Implementation*. New Zealand Journal of Teachers' Work, Volume 8, No. 2, 2011. <http://www.teacherswork.ac.nz/journal/volume8_issue2/jagersma.pdf>

xxxix Holdsworth, Victoria. *Commonwealth Student Association is Launched*, The Commonwealth, 30 Aug. 2012. <http://www.thecommonwealth.org/news/190663/163077/249553/300812csa.htm>

xl Education Think Tank at ISTE 2012, Dell. <http://content.dell.com/ca/en/corp/d/secure/think-tank-education>; *Student Voices Project Report*, TakingITGlobal and ISTE. <http://www.tigurl.org/images/resources/tool/docs/1887.pdf>

xli *The Education World Forum 2012 Global Summit for Education Ministers* - Report of the Canadian delegation, Canadian Ministers of Education Council, Jan. 2012.

xlii *SpeakUp – Student Voice*, Ontario Ministry of Education. <http://www.edu.gov.on.ca/eng/students/speakup/index.html>

xliii Mitra, Dana. *Increasing Student Voice and Moving Toward Youth Leadership*. The Prevention Researcher, Volume 13, No. 1, 2005. <https://eboardsecure.dcsdk12.org/attachments/080aee20-ba2b-4149-b28f-7d402eb4de1c.pdf>

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