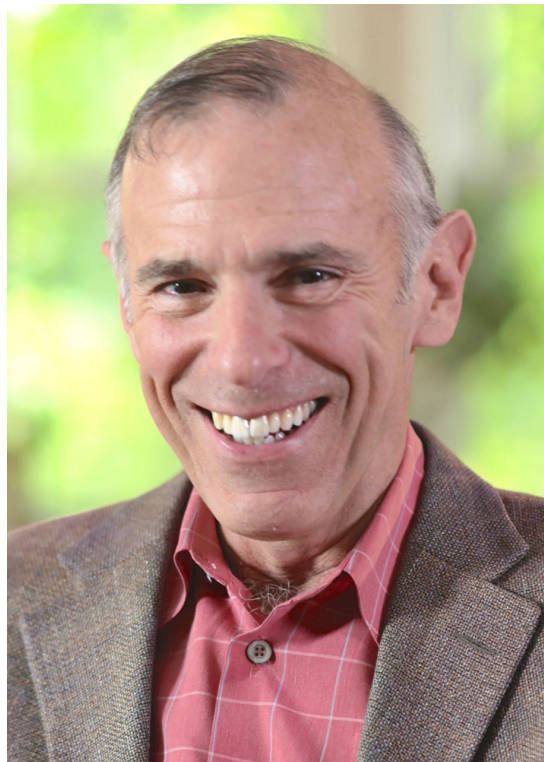




DR. TONY WAGNER

Nominee for 2016 Brock International Prize in Education



Expert in Residence
Harvard Innovation Lab

Nominated by
Heidi Curry
Juror

TONY WAGNER

embodies the very essence of John A Brock's vision for Laureates—innovation.

Through his roles as Expert In Residence at Harvard University's Innovation Lab, founder of Harvard's Change Leadership Group, educational advisor to the Bill and Melinda Gates Foundation, and co-founder of Educators for Social Responsibilities, Wagner has facilitated a radical shift in priorities for education in the 21st century. He is an educational theorist and activist who is engaging stakeholders throughout the world to replace the antiquated status quo of factory-style schooling with "play, passion, and purpose" to develop young innovators who possess the problem-solving skills, creativity, and optimism needed to lead us into the future. As best-selling author and documentarian premiering at the Sundance Film Festival, his principles are reaching the mainstream to open vast new possibilities.

What is innovation?

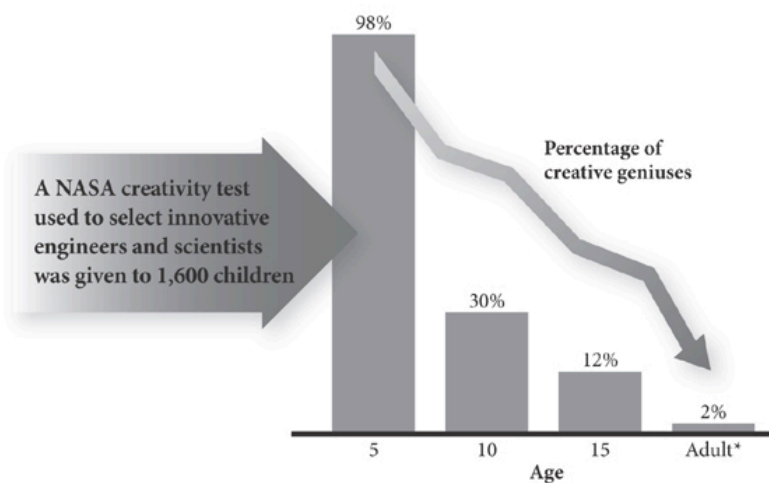
Wagner is widely known as the expert in the field of innovation and education. He is the author of the best-selling book *Creating Innovators: The Making of Young People Who Will Change the World*, which has sold more than 85,000 copies to date, available in thirteen international translations. In *Creating Innovators*, Wagner defines innovation as creative problem-solving that may be applied to any field or aspect of life: incrementally, by improving existing solutions, or disruptively, by developing completely new approaches.

Wagner effectively demonstrates that innovation is not a special birth right bestowed upon the lucky few; rather, it is a natural part of who we are. Unfortunately, Wagner's research finds that these innovative qualities, so prevalent at an early age, are unknowingly discouraged by school, culture, and work, where avoiding failure becomes the most important skill.

Joost Bonsen, Massachusetts Institute of Technology (MIT) alumnus and lecturer in one of the world's most cutting-edge learning laboratories, the MIT Media Lab, is one of more than 150 business and education leaders interviewed by Tony Wagner in *Creating Innovators*. He describes what Tony Wagner has established as a critical tenet: "Being innovative is central to being human. We're curious and playful animals, until it's pounded out of us" (qtd. in Wagner, 2012, p.27).

Wagner presents the graph to the right in his most recent best-selling book, *Most Likely to Succeed*, illustrating that 98% of five-year-olds are creative geniuses according to NASA; meanwhile, after submission to a culture of risk-aversion, only 2% of adults remain creative geniuses.

Study indicates noncreative behavior is learned
George Land's NASA Creativity Test



*The same test was given to 280,000 adults.

Source: *Breakpoint and Beyond: Mastering the Future Today* by George Land; A.T. Kearney analysis

Wagner has spent the last twelve years assembling urgent cries from leading business executives, educators, policy-makers, military leaders, parents, and young adults as to the shortage of innovation as a commodity—a commodity that defines the new economy.

Innovation Economy Replaces Knowledge Economy

Inspired in 2005 by Thomas Friedman’s book, *The World is Flat*, Wagner became enthralled with the game-changing essence of the digital explosion and the emergence of a new level of globalization. Wagner recognized the significance of the world experiencing “one of those fundamental shifts or inflection points, like Gutenberg’s invention of the printing press, the rise of the nation-state, or the Industrial Revolution” (Friedman, 2005, Back Cover) and questioned what the “flat world” meant for education. In the absence of related research or discussions, he endeavored to become a translator between this new world of the innovation economy and the world of schools. He authored *The Global Achievement Gap: Why Even our Best Schools Don’t Teach the New Survival Skills our Children Need — and What We Can Do About It*.

Educators and policy makers around the world were hungry to engage in the critical discussion regarding the new economy. Specifically, they wanted to learn what skills young persons needed in this new economy, what educators must do to meet their needs and how education must change. The book quickly became a best-seller. To date, the book has sold more than 135,000 copies and a related you-tube video, “The Seven Survival Skills” has been viewed more than 400,000 times. The book’s second edition, released in 2014 continues to sell well, a testament to the continued relevance of Wagner’s seminal contribution to education in the 21st century.

The ground-breaking book’s reach surpassed the United States and—in true form to the “flat world”—influenced readers around the world as demonstrated in the following excerpt from a *Singapore Education Consultants* article, “Teaching Students to Think in Nus, Singapore”. The National University of Singapore’s provost, Professor Tan discusses its significance:

[In the book,] Harvard education professor, *Tony Wagner*, [argues] that secondary students in the *US* are not “*jury ready*”. By this, he meant that students leave school without acquiring the skills to be able to analyze an argument, weigh evidence, and detect bias. In his book, “*The Global Achievement Gap*”, Professor Wagner defines his “*Seven Survival Skills*” for students to succeed at the university and at the workplace, and in life in general. The *Seven Survival Skills* includes problem solving and critical thinking, collaboration across networks, adaptability, initiative, effective oral and written communication, analyzing information, and developing curiosity and imagination.

It seems that Professor Wagner’s view about this inability to produce “*jury ready*” students is not only true for the US, but also for Singapore, an island lauded for its rigorous education system.

Critics will point out that many individuals *are* “*jury ready*”. Yes, but as educators within a new economy and citizens of the world, Wagner argues, is it not our role to prepare *all* of our students to be “*jury ready*”?

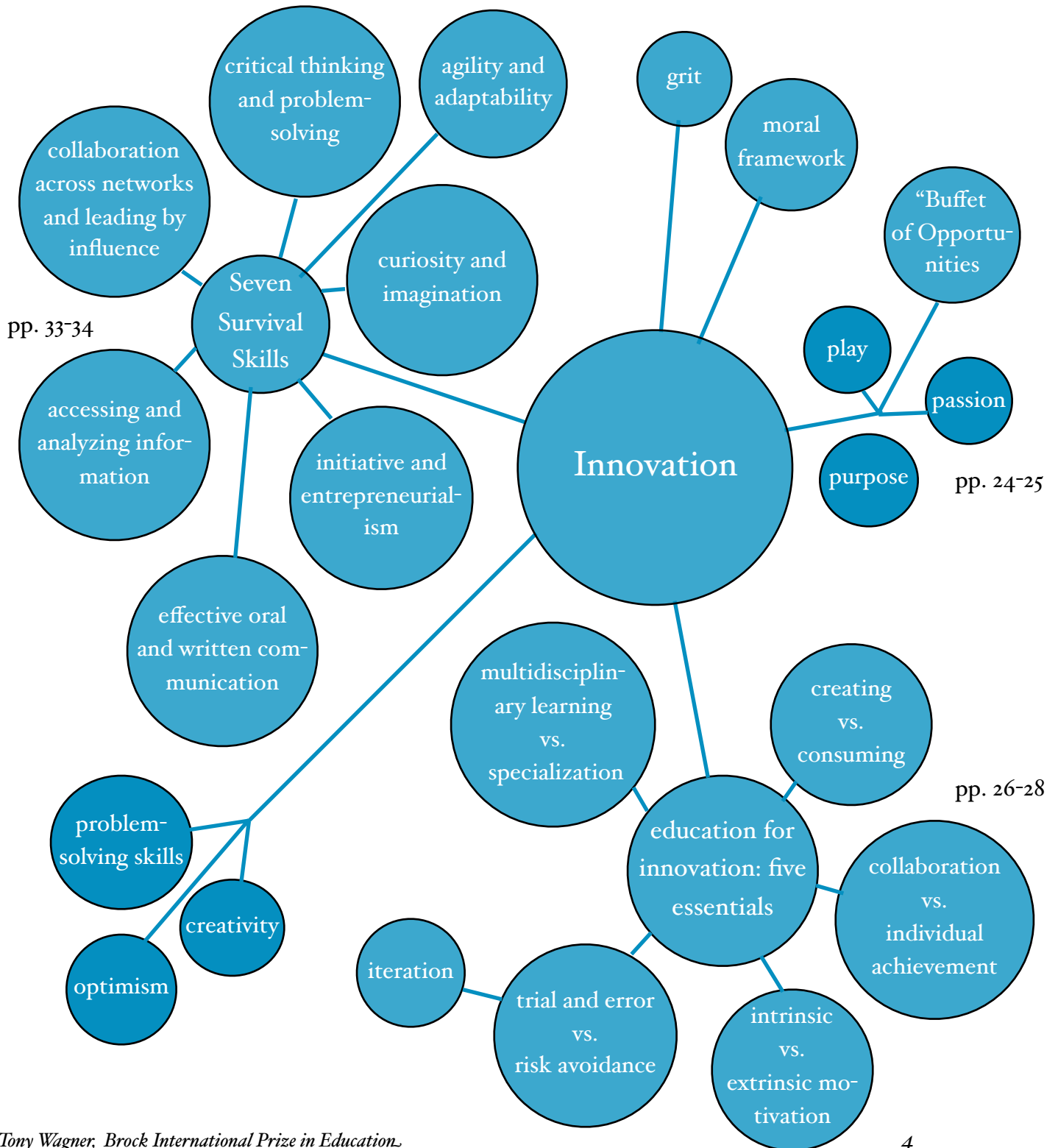
Why must we “teach” innovation?

Wagner demonstrates that the vast majority of low-skill, middle class jobs that supported the previous generation have disappeared, replaced by technology. Central to Wagner’s theory is that social justice requires that we prepare ALL students to find success in employment and as productive citizens of the world. No longer can the innovative skill sets be reserved for the elite, as they have been, he demonstrates, for the past 2,000 years.

What does “teaching” innovation look like?

The following pictograph illustrates major concepts from *The Global Achievement Gap*, *Creating Innovators*, and *Most Likely to Succeed*. These concepts are summarized in the articles that follow and referenced with corresponding pages within this portfolio.

Teaching Innovation: Learning Outcomes & Methodologies



Wagner's Seven Survival Skills; Five Essentials; and Principles of Play, Passion, Purpose, have established the vocabulary used around the world for 21st century skills. Excellent summaries of these concepts are provided in the articles that follow. Wagner sums up the essence of teaching innovation in three steps: content matters, skills matter more, and motivation matters most.

Content Matters

"You cannot innovate from nothing. You must have expertise—knowledge—though how much knowledge you need, when you need it, and how best to acquire it" (Wagner, 2012, p. 24) become the important questions.

Skills Matter More

"What you know is far less important than what you can do with what you know" (Wagner, 2012, p. 142). The next critical step after *applying* knowledge is *creating* knowledge. He argues, "The interest in and ability to *create* new knowledge to solve new problems is the single most important skill that all students must master today. All successful innovators have mastered the ability to learn on their own 'in the moment' and then apply that knowledge in new ways" (p. 142). This level of knowledge application involves the skill of asking questions. And, established with the educator's context, asking the right questions lies at the heart of how we determine what we measure.

Motivation Matters Most

In *Creating Innovators*, Wagner's accounts of innovators, mentors and parents always circled back to three iterative stages of an innovator: play which often begins at a young age, passion which develops over time, and purpose which is what drives perseverance. When a young person is involved in play, passion, and purpose, they are intrinsically motivated.

Effective education will provide a "buffet" of opportunities as described by Cord Phelps, the father of Kirk Phelps, who was the product manager for the first iPhone, in his interview with Wagner. Mr. Phelps describes his parenting approach: "We tried to put [our kids] in as many situations as possible related to their interests. Almost like moving them through a buffet of opportunities. Try this, if you don't like it, you might like this over here" (Wagner, 2012, p. 32).

For ALL Students

As parents, we get hooked. Greg Whiteley, the filmmaker of Ted Dintersmith's and Wagner's Sundance Film Festival's documentary "Most Likely to Succeed" opens the film with his own daughter's disenchantment with elementary school. Then, at the end of the film, after eighty minutes of exploring how great schools like High Tech High can engage students through nurturing innovation, Whiteley returns to his daughter's plight with a sense of sorrow and questions if traditional schooling might actually harm his daughter.

Similarly, Eric Kain, Contributor for Forbes, and author of "The Finland Phenomenon: Inside the World's Most Surprising School System" on pp. 38-40 of this portfolio, says:

"To be honest, I finished the film feeling a bit angry for all the talk of school-choice in our current education debate, the choices available to me and to my children (not to mention the countless people far less fortunate than myself) are really false choices. No matter whether you attend a public school or a charter, you are really bound to the modern testing regime. And if you're poor you are very likely bound to end up in a bad school, unless you are one of the lucky few that manages to get into one of the really stellar charter schools." (p.39)

In contrast, we get the chance to hear from one of the lucky parents who has her daughter enrolled in the innovative laboratory of High Tech High. She does not speak to us through rose-colored glasses. A highly involved parent, she cites

the many worries she has associated with plunging her daughter into a completely new school design: no textbooks, no traditional subject classes, no grades. As her anxiety is clear, Whiteley asks her why she chose High Tech High. Because clearly something is wrong, she explains. Her friends' children are graduating from prestigious universities with high-level degrees and ending up right back at their parents' houses, often holding down minimum wage jobs that have no connection to their degrees. The facts are glaring for this mother: traditional schooling is not producing results in the real world.

How long can we afford to wait? In a video clip associated with *Creating Innovators*, Wagner urges us to *do something* about the fact that 50% of college graduates in the U.S. are either unemployed or underemployed, taking a low-skill job that does not require a degree.

How long will we continue to use the education system developed more than a century ago for a time that no longer exists?

Critics argue that we cannot expect everyone to be innovators; nor should we assume that everyone even *wants* to be an innovator. But, we cannot dismiss that 98% of NASA's five-year-old subjects demonstrate creative genius. Nor can we dismiss that looking at our own child or loved one, we would never deny the fostering of creative problem solving, a skill that will characterize the success, happiness, health, and peace of his or her lifetime . . . not to mention that of our planet.

Innovation = Brock Prize = Tony Wagner = Established World Impact = Urgent Need

“The prize is about **innovative** ideas that make meaningful change in how we think and act.” The very fact that this prestigious prize tasks us to find **innovative** ideas signals our responsibility as leaders in the field of education to “grow” a world of innovators who will be able to keep up with an ever-changing world moving at warp speed as it never has before.

We cannot afford to continue stripping away the creative genius of our youth; for these will be the leaders of our future in a world that may leave us quickly feeling like dinosaurs.

The Brock Prize is established to further a field that is “undergoing transformation. Where once education was a benefit of a privileged few, today it has become imperative for entire nations. To be uneducated diminishes one's chances of success. Given an environment in which so much is at stake, it is important to recognize major innovations in education and adopt them into other education systems.”

Thomas Friedman, paradigm changer and author of the international bestselling book *The World is Flat: A Brief History of the Twenty-First Century*, argues for transformation using Wagner's ingredients:

More than a century ago, we ‘reinvented’ the one-room schoolhouse and created factory schools for the industrial economy. Reimagining schools for the 21st-century must be our highest priority. We need to focus more on teaching the skill and will to learn and to make a difference and bring the three most powerful ingredients of intrinsic motivation into the classroom: play, passion and purpose.” (Friedman 2013; p.30 within this document).

As Ken Kay, the CEO of EdLeader21 and Founding President of Partnership for 21st Century Skills, states in his attached letter of endorsement, “a profound shift in the future direction of education globally [is underway because of] the vision and advocacy of Tony Wagner.”

With this Prize awarded to Tony Wagner, we would endorse the ongoing “reimagining” of schools for the 21st century. I invite you to join me in voting for Tony Wagner as the next Brock International Prize in Education. Your children and grandchildren will thank you for it.

IMPACT

Education R&D

Tony Wagner argues that while competitive companies allocate 20% of their budgets to R&D, the education system allocates almost nothing. Wagner has immersed himself into educational R&D at every opportunity. As the first Education advisor to the Bill and Melinda Gates Foundation, Wagner identified the educational entrepreneurs who had the capacity to create educational laboratories. Serving in this capacity for eight years, Wagner influenced funding for the vast majority of the nation's leading schools today including schools such as High Tech High, New Tech High, Expeditionary Learning Schools, and those within many school districts. He also consults and advises schools across the country including groundbreaking schools such as the Olin School of Engineering, where he serves as one of their Distinguished Academic Partners. Along his prolific path of writing, speaking, and filming, Wagner revisits these schools and shares their stories, inspiring whole systems of schools along the way.

Education Leaders

On a personal level, I was deeply intrigued and inspired by Wagner's *Creating Innovators* and integrated many of his findings into my work as Managing Director and teacher at Ocean Academy, a secondary school I co-founded in 2008 to serve an island community that never had a high school. Located in the Caribbean country of Belize, the majority of our island's residents have only finished primary school, if that, and live "hand to mouth", the local term for poverty. As a young country, we endure many serious challenges: our nearby capital recently ranked #4 in the world for murder-per-capita¹, citizens suffer one of the highest diabetes rates in the world, the backbone of our tourist economy—Belize's Great Barrier Reef—is under environmental threat, and young persons under the age of twenty-five face a 25% unemployment rate², to name a few. It is clear to me that my job is to foster the development of young innovators who possess the problem-solving skills, creativity, and optimism (Wagner 2012) needed to lead Belize into a safe, prosperous, and sustainable future.

Eighteen months ago, I incorporated Wagner's principles including play, passion, and purpose; a buffet of opportunities; an emphasis on mentors and taking initiative; as well as the insights I gleaned from dozens upon dozens of featured schools such as the Olin School of Engineering, High Tech High, Stanford's d.school, and MIT's media lab. As a result, our school won sixteen prestigious international, national, and regional awards last year. One of the awards was for a highly competitive Innovation Challenge sponsored by PricewaterhouseCoopers in which five Ocean Academy students solved the challenge of youth unemployment through the development of a mobile app and won a \$3,500 prize package. These students, the first-in-their-families to attend high school, on scholarship, competed against the best and the brightest from all of the most prestigious schools in the country, established by the British prior to independence . . . and the Ocean Academy students won. All of the national television and radio stations interviewed the proud students, broadcasting an "underdog" win across the nation³. The next day, the school received a call from someone who wanted to buy the rights to the mobile app; the student team proudly held onto their invention.

I am only one of countless school founders, leaders, and educators who have applied Wagner's principles of innovation to achieve substantial results. Two notable schools who have worked closely with Tony Wagner are the aforementioned Olin

¹ <http://www.theguardian.com/cities/gallery/2014/jun/24/10-world-cities-highest-murder-rates-homicides-in-pictures>

² <http://www.breakingbelizenews.com/2014/01/29/economic-data-shows-unemployment/>

³ <http://oaseatide.com/2015/05/29/oas-hire-belize-mobile-app-wins-pwcs-belize-innovation-challenge/>

School of Engineering and High Tech High (HTH). Olin has been touted by Microsoft as a breeding ground for young engineers who are practicing innovators with the equivalent of two to three years more “experience” than students graduating from traditional schools. Wagner and Ted Dintersmith featured High Tech High in their recent documentary, “Most Likely to Succeed”, which was one of 112 films chosen from 4,000 submissions to premier at the Sundance Film Festival. HTH serves a population of 60% minorities and 42% qualifying for free or reduced lunch⁴ and celebrates a 98% college enrollment with approximately 75% attending four-year schools including Johns Hopkins University, Massachusetts Institute of Technology, Stanford University, Harvard University, Olin College, University of California at Berkeley, and New York University. Equally impressive, 86% of HTH graduates are either still in or have graduated from college⁵ compared to the national 40% to 51%⁶ minority graduation rate for students who attended a traditional school.

Charles W. Elliott Award

With a sense of urgency, Wagner is uncovering the need to shed the archaic school system, designed more than 120 years ago by the “Committee of Ten” to serve the Industrial Revolution, and instead, embrace a new model of education that serves the modern-day innovation economy. An interesting twist, worth noting, occurred in 2009 when the New England Association of Schools and Colleges gave it’s Charles W. Elliott Award to Tony Wagner “in recognition of his keen insight and deep commitment to the improvement of education for all students.” The award is named after the 1890 Harvard President who headed the Committee of Ten, which created the architecture for the education system that Tony is committed to reimagining. It is clearly the era for change.

Finland

Finland, ranked by U.S. News and World Report as the top education system in the world, invited Tony Wagner to advise their ten-year-forecast-redesign of the Finland School System to better serve the needs of the 21st Century. Shortly thereafter, Finland introduced a reform that requires every school to devote some percentage of their time to interdisciplinary studies, a central component to Wagner’s recommendations to break down the walls that separate content areas in order to foster real-world problem-s

Publications, Films, Videos, Speaking Engagements

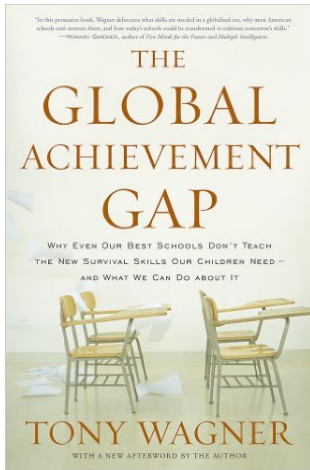
Since his early days when he bucked the traditional system of writing an academic dissertation for only “one or two persons in the world to be able to read” as his advisor suggested, and instead wrote his first book to be published—he writes and speaks to reach diverse audiences for the greatest impact. Best-selling books, a Sundance-Film-Festival Film, viral videos, and a massive list of speaking engagements demonstrate that people connect with the messages Wagner delivers. These are presented in the pages that follow. Excerpts from emails are included on pp. 44-48 and represent the thousands of verbal and written comments Wagner receives sharing how his work is changing the field of education.

⁴ <http://www.hightechhigh.org/about/>

⁵ <http://www.hightechhigh.org/about/results.php>

⁶ <http://fivethirtyeight.com/features/race-gap-narrows-in-college-enrollment-but-not-in-graduation/>

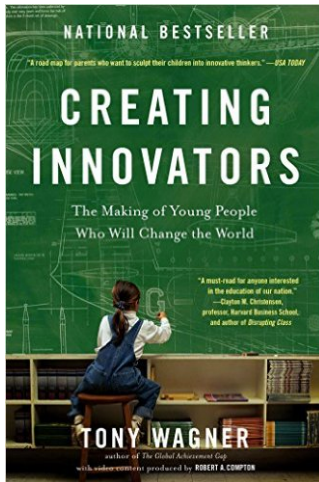
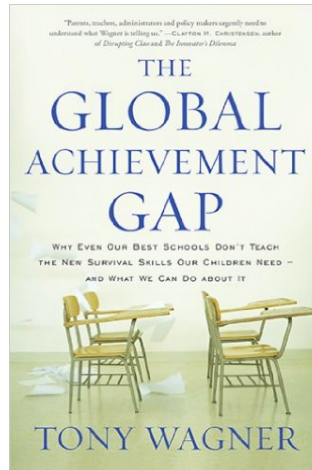
Tony Wagner Selected Books



2010, 2014

Bestseller

More than 400,000 copies sold.



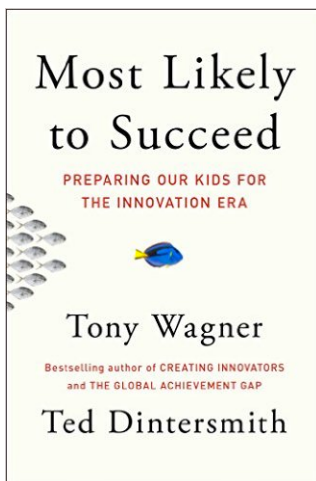
2012

Bestseller

More than 100,000 copies sold.

The fact that more hardcopies of *Creating Innovators* have sold than for the *Global Achievement Gap* serves as a strong indicator that this book will outsell the *Global Achievement Gap*.

Currently available in thirteen international translations.



2015

This newly released book is currently listed as a #1 Best Seller on Amazon.com

#1 Best Seller in Education Problem Solving



Tony Wagner Films

Innovative Delivery: Dr. Wagner became interested in film as an effective means to reach audiences of educators, policy makers, parents, and the mainstream.

Full-feature documentaries:



The Finland Phenomenon 2013

66,139 views
(in addition to sales)

https://www.youtube.com/playlist?list=PLzsi_E489-gUXFVuciYEgO3AyrPMVAjxP



Most Likely to Succeed 2015

One of 112 films chosen from 4,000 submissions to premier at the Sundance Film Festival.

***This film is currently only available to view at scheduled public viewings. Jurors will receive an email invitation for a one-time, single viewing.**

Tony Wagner Selected Videos



7 Skills students need for their future, 2009

Views: 402,449

Youtube Review: This video should be required viewing by students and teachers. Tony Wagner's seven survival skills are what I post on my classroom wall. I should touch at least one of those skills in each lesson.

<https://www.youtube.com/watch?v=NS2PqTTxFFc>



Play, passion, purpose: Tony Wagner at TEDxNYED, 2012

Views: 93,446

Youtube Review: **Play, passion, purpose: Tony Wagner at TEDxNYED - YouTube** Knowledge is a commodity. It is not what you know. It is what you can do with what you know. Amazing Ted Talk by Tony Wagner.

<https://www.youtube.com/watch?v=hvDjh4l-VHo>



Creating Innovators: Web Trailer, 2012

Views: 50,500

Opening statement: "How important is innovation? How important is oxygen to life?" - Dean Kamen, Segway Inventor

<https://vimeo.com/37248618>



IDBtv Visionaries: Tony Wagner, 2013

While Tony was in Panama keynoting the Inter-American Development Bank's event on Youth & Social Innovation in 2014, Uruguayan filmmaker Adriana Loeff was commissioned to make this short video portrait of him as a part of the IDB series on "Visionaries."

<https://vimeo.com/62020660>

***Tony Wagner has more than 100 additional videos on youtube and vimeo including many speaking engagements, interviews, and *Creating Innovators* video clips that correlate with the book.**

SPEAKING EVENTS

12/08/2015 Keynoting Illinois Resource Center Annual Conference, Hilton Resort and Conference Hotel, Oak Brook Hills IL
11/05/2015 Keynoting the Florida Council of Independent Schools in Orlando
11/02/2015 Keynoting the Georgia Independent Schools Association Conference, MOUNT PISGAH CHRISTIAN SCHOOL, Johns Creek GA
10/21/2015 Keynoting the Grantmakers for Education Conference, Westin St. Francis, San Francisco CA
10/06/2015 Keynoting the CBE Making Shift Happen Amsterdam Conference, Beurs van Berlage, Amsterdam
09/30/2015 Keynoting the Edleader 21 Conference in Dallas
09/25/2015 Keynoting the Challenge Success Conference, Stanford University, Palo Alto CA
07/07/2015 Keynoting the Northwest Evaluation Association Annual Conference, Chicago Hilton, Chicago IL
06/18/2015 Moderating Harvard Faculty Panel Discussion of "Most Likely To Succeed", Menschel Hall, Harvard Art Museums, Cambridge MA
05/14/2015 Keynoting New Jersey Association of School Administrators Conference, Caesars, Atlantic City NJ
04/17/2015 Keynoting NY Tech Expo Conference, Edith Macy Conference Center, Briarcliff Manor NY
04/10/2015 - 04/11/2015 Presentations at Amherst College, Amherst College, Amherst MA
04/07/2015 Keynoting World Education Leadership Summit, Star Performing Arts Center, Singapore
03/25/2015 Presidential Lecture Series Presentation at Utah Valley U., Utah Valley University, Orem UT
03/18/2015 Speaking to education leaders at Harvard/Scholastic Literacy conference, Harvard University, Graduate School of Education, Cambridge MA
03/12/2015 Dan Pink & I share a conversation at the Creativity Forum, Fairmont Hotel, San Francisco CA
03/11/2015 Most Likely to Succeed at SWSX edu, Austin, TX, Austin TX
02/17/2015 Featured Speaker at Dow World Leaders Summit, Ritz Carlton, key Biscayne FL
12/16/2014 Speaking at Future of North Carolina Forum, The Umstead Hotel and Spa, Cary NC
11/23/2014 Keynoting Canadian Higher Education Summit, Fairmont Royal York Hotel, Toronto
11/19/2014 Speaking to parents and teachers of Avenues, The World School, Avenues, New York NY
11/17/2014 Speaking to faculty and parents at the Sidwell Friends School, Washington, DC, Washington DC
11/12/2014 Keynoting Scholastic Event, Closed Event, Miami Florida
11/04/2014 Keynoting the World Innovation Summit for Educators (WISE), World Innovation Summit for Educators (WISE), Doha
10/09/2014 Keynoting Momentous Institute Changing The Odds Conference, Hyatt Regency Dallas, Dallas Texas
10/08/2014 Keynoting Scholastic event, Atlanta, Atlanta Georgia
09/29/2014 Keynoting GetSmartSchools Conference in Denver, CO
09/26/2014 Keynote and breakout session at the Navajo Prep School in Farmington, NM
07/30/2014 Keynoting the New Hampshire State-Wide Education Summit
07/25/2014 Keynoting the Northwest Evaluation Association conference in Portland, OR
06/12/2014 Joining Thomas Friedman to speak at a special 1 day conference on technology, innovation, and education, sponsored by The New York Times in San Francisco
06/10/2014 Keynoting Charleston Educators Conference
06/09/2014 Keynoting the Learning and The Brain Conference in New York City
04/11/2014 Keynoting Oppi Education festival in Helsinki, Finland
04/08/2014 Keynoting The Lego Foundation Ideas Conference in Billund, Denmark.
04/03/2014 Speaking at the Graland Country Day School, in Denver, CO
04/01/2014 Keynoting International Finance Corporation Conference on Rethinking Education in San Francisco
03/19/2014 Keynoting the Scholastic Literacy Conference at Harvard University in Cambridge, MA
03/16/2014 Featured Speaker at the ASCD Annual Conference in Los Angeles, CA
03/14/2014 Speaking at Teaching & Learning 2014 National Conference in Washington, DC
03/08/2014 Keynoting (via Skype) School District Reform Collaborative Summit in Fairfield, CT
03/07/2014 Presenting at Purdue University
02/08/2014 Presenting to the Board of Directors of ASCD in Miami, FL
02/07/2014 Keynoting the Independent Schools Association of the Southwest conference in New Orleans
02/03/2014 Speaking at the University of Chicago Lab School in Chicago, IL
01/15/2014 Special presentation for leaders, sponsored by Nation's Well, in New York City

SPEAKING EVENTS

12/06/2013 Keynoting the Northeastern ASCD Affiliates Conference in Boston, MA
12/05/2013 Keynoting the New England Association of Schools and Colleges Annual Conference in Boston, MA
11/30/2013 Keynote for the KY Education Innovation Summit in Lexington, KY
11/29/2013 Keynoting Arizona State University's Morrison Institute for Public Policy "State of Our State" conference in Phoenix
11/23/2013 Keynoting the Joint Annual Conference of the Illinois Association of School Boards, Illinois Association of School Administrators and Illinois Association of School Business Officials, in Chicago, IL
11/22/2013 Keynoting the American Council on the Teaching of Foreign Languages conference in Orlando, Florida
11/14/2013 Keynoting the American Association of School Librarians Conference in Hartford, Connecticut
11/04/2013 Presenting at the Virginia Association of Independent Schools Annual Conference in Richmond, Va
10/26/2013 Keynoting the Hilton Head Island Institute Imagi-Nation program in Hilton Head, SC
10/24/2013 Keynoting Expeditionary Learning National Conference in Atlanta, GA
10/23/2013 Keynoting the MASS CUE annual conference outside of Boston, MA
10/18/2013 The Nueva School Innovative Learning Conference keynote in Hillsborough, California
09/26/2013 Speaking at National Conference of State Legislators Jobs Summit in Austin, TX
09/22/2013 - 09/23/2013 Presenting two keynotes at the CoLabSummit in Atlanta, GA
09/12/2013 Keynoting special "Educating for Entrepreneurship" event at Davidson College, near Charlotte, NC
07/31/2013 Keynoting the Learning Environments & Campus Technology combined conference, in Boston, MA
07/30/2013 Speaking at the National Association of State Boards of Education Annual Meeting in Arlington, VA
07/18/2013 Keynoting Gallup Education Conference, "Aiming At Career & Life Wellbeing," in Omaha, Nebraska
07/11/2013 Keynoting the Oklahoma Department of Education Vision 2020 Conference in Oklahoma City
07/09/2013 Keynoting the National Career Development Association Conference in Boston
06/27/2013 Keynoting The Institute for Student Achievement's Summer conference in Long Island, NY
06/26/2013 Keynoting the Teachers College, Columbia University, June Writing Institute in New York City
06/25/2013 Keynoting the NexusEQ Conference on Emotional Intelligence and Leadership at the Harvard Medical School in Boston, Massachusetts
06/21/2013 Half-day workshop for the Symposium on Education and Technology At Harvard University in Cambridge, MA
06/20/2013 Presentation at the Saginaw Valley State University, College of Education at University Center, Michigan
06/19/2013 Keynoting regional Learning Conference in Birmingham, Michigan
06/18/2013 South Carolina Association of School Administrators Conference keynote in Myrtle Beach, South Carolina
06/11/2013 Presenting at the Harvard Macy Institute at the Harvard Medical School in Boston, Massachusetts
06/10/2013 Keynoting the CDIO Engineering Education conference at MIT in Cambridge, Massachusetts
05/22/2013 Keynoting Lesley University Arts Celebration event in Cambridge, MA
05/21/2013 Keynoting the Golden Apple program in Chicago, Illinois
05/06/2013 Keynoting the Magnet Schools of America Conference via Skype
05/02/2013 Keynoting the Intermediary Network Regional Conference in Los Angeles, via Skype
04/19/2013 Keynoting the The Association to Advance Collegiate Schools of Business conference in Chicago, Illinois
04/12/2013 Keynoting the STEM-H Summit, sponsored by the Institute for Advanced Learning and Research, New College Institute, Southern Virginia Higher Education Center, and Virginia Secretary of Education in Danville, VA
04/10/2013 Keynoting the Conrad Foundation's Spirit of Innovation Challenge Innovation Summit at the Johnson Space Center in Houston, TX
04/09/2013 Keynoting the The Association to Advance Collegiate Schools of Business conference in Chicago, Illinois
04/02/2013 Presentation to the World Affairs Council In Dallas, Texas
03/21/2013 Presenting at the Scholastic Inc. Intervention Convention at the Harvard Graduate School of Education in Cambridge, Massachusetts
03/20/2013 Presentations to Atlanta area independent schools faculty and parents.
03/14/2013 Keynoting the Inter-American Development Bank Annual Meeting in Panama City, Panama
03/11/2013 Presenting at the Harvard Leadership Institute for Superintendents in Cambridge, MA
02/28/2013 Panelist for discussion of rigor at the Brookline High School in Boston
02/05/2013 North American Jewish Day School Conference keynote in Washington, DC
02/01/2013 Presentations, via Skype, to parents and faculty at the St. Margaret's Episcopal School
01/23/2013 Wisconsin State Education Convention keynote in Milwaukee, WI

SPEAKING EVENTS

- 01/17/2013 Presentations at the University of Virginia. More information forthcoming
- 01/12/2013 Montessori state-wide conference keynote in Franklin, MA
- 01/11/2013 Presentations to faculty, trustees, and parents at the St. Timothy's School in Stevenson, Maryland
- 12/11/2012 State-wide Education Technology conference keynote in Minneapolis, MN
- 11/16/2012 Keynoting the Washington State School Directors Association Convention in Spokane, WA
- 11/15/2012 Keynoting the Iowa Association of School Boards conference in Des Moines, IA
- 11/08/2012 Keynote for the World Affairs Council national conference in Washington, DC
- 11/07/2012 Tony is keynoting the first ever Apple iPad summit in Boston.
- 11/04/2012 Tony is the opening keynote speaker at the K12 Academics Summit in Palm Springs, CA
- 10/27/2012 Keynote for Columbia University, Teachers College Reading and Writing Project Reunion in New York City
- 09/27/2012 Keynoting state-wide conference on high school transformation at the University of Vermont in Burlington, VT
- 09/21/2012 Presentation at the IdeaFestival in Louisville, KY
- 09/20/2012 Presentation to parents, teachers, and community members at the University School, near Cleveland, OH
- 08/21/2012 Presenting at the Council of Chief State School Officer's CEO-CEO Exchange in Napa Valley, CA
- 08/10/2012 Keynoting Symposium on Educating for Sustainable Happiness, co-sponsored by Cushing Academy and The Bhutan Canada Foundation, on the campus of Cushing Academy in Ashburnham, MA
- 08/08/2012 Presentation for the Fairfax County Public Schools, outside of Washington, DC
- 08/07/2012 Keynoting The Minnesota State Department of Education and Association of School Administrators Conference in Minneapolis
- 07/26/2012 Keynote Maine Youth Development Institute Conference at University of Maine, Orono
- 07/20/2012 Keynote for the College Board Advanced Placement conference in Orlando, FL
- 07/19/2012 Keynote at the 21c Learner and Change Conference in Minneapolis, MN
- 07/13/2012 Showing of The Finland Phenomenon and Keynote at the International Baccalaureate America's Conference in Riviera Maya, Mexico
- 07/12/2012 Tony will be a featured speaker at Camp Snowball, organized by Peter Senge and his colleagues. This year's program, which takes place in Tucson, AZ, will focus on how to systematically develop teacher and leader capacity for work on the Common Core Standards
- 06/30/2012 Keynote at Asia Society's Partnership for Global Learning conference in New York City
- 06/20/2012 Tony will be discussing his book at a Harvard Business School Association of Boston event
- 06/20/2012 Presentation to participants of the Harvard Real Colegio Complutense Program on Education and Technology in Cambridge, MA
- 06/11/2012 Book talk at Google headquarters in Mountain View, CA
- 05/30/2012 Tony will participate in a panel discussion after the showing of The Finland Phenomenon at the Half Hollow Hills High School on Long Island in Dix Hills, NY
- 05/11/2012 Tony will speak at a special event commemorating the 10th anniversary of MIT's D-Lab
- 05/03/2012 Presentation at Microsoft's Headquarters, outside of Seattle WA
- 05/01/2012 - 05/07/2012 A series of presentations and appearances in the San Francisco Bay Area, including the 2012 Stanford Bing School Distinguished Lecture on May 1
- 04/28/2012 Presentation at the TEDx NYED event in New York City
- 04/25/2012 - 04/26/2012 A series of appearances/presentations in the Atlanta area. April 25, evening presentation for area parents and educators, sponsored by the Holy Innocents' Episcopal School Global Citizenship Program in Atlanta, GA
- 04/20/2012 Presentation at Skillshare's "Penny" conference in New York City
- 04/19/2012 Afternoon workshop and evening presentation to area parents and educators, sponsored by Princeton Common Ground in Princeton, NJ
- 04/17/2012 Keynote New Schools Project STEM conference in Research Triangle NC
- 04/17/2012 Creating Innovators: The Making of Young People Who Will Change The World goes on sale!
- 04/12/2012 Keynote for Scholastic/American Association of School Administrators program "Focus on What Matters Most- Making School Improvement A Reality" in New York City
- 04/09/2012 Evening presentation to area parents and educators in Duxbury, MA
- 04/03/2012 Presentations to educators, parents, and community members in the New Albany, OH school district, near Columbus, OH

SPEAKING EVENTS

04/02/2012 Morning presentation to area educators, evening presentation to parents. Part of the Charles River School Centennial Celebration in Dover, MA

03/20/2012 Presentation at the Harvard Leadership Institute for Superintendents in Cambridge, MA

03/16/2012 Keynote for Scholastic's Intervention Convention in Boston, MA

03/08/2012 Keynote for the Orange County Arts Education Center in Orlando, FL

02/17/2012 Workshop & Keynote, Learning in The Digital Age Conference

01/27/2012 - 02/06/2012 Speaking and consulting for the Think Global School in Chiang Mai, Thailand

01/24/2012 Evening presentation for parents and morning workshop for educators in Charleston, SC

11/30/2011 Keynote speech for the SST conference in Birmingham, England

11/18/2011 Keynote Learning and the Brain Conference in Boston

11/11/2011 Keynote for the Massachusetts Association of School Committees and the Massachusetts Association of School Superintendents Conference

11/02/2011 Keynote and discussion at the Association of Northern New England Independent Schools conference

10/21/2011 Workshop for New Hampshire ASCD

10/19/2011 Program for the Executive Leadership Institute, sponsored by Sponsored by the CSA–Council of School Supervisors and Administrators/Executive Leadership Institute

10/06/2011 Keynote Global Education Forum in Madrid, Spain

07/21/2011 Keynote for the NASA Motivating Undergraduates in Science and Technology (MUST) Project

06/29/2011 Keynote for the KIPP Leadership Summer Institute

06/16/2011 Keynote, Community College of Vermont, Fairlee, VT

06/07/2011 Public lecture and book signing at the Palm Beach County Convention Center

05/26/2011 Keynote, Conference on Creativity, Columbia University, New York City

04/27/2011 - 04/29/2011 Presentations in Singapore

04/14/2011 Day-long workshop for CT. educators, Sacred Heart University, Fairfield, CT

04/07/2011 Address to parents & community members, Greenwich Public Library, Greenwich, CT, sponsored by the Whitby School

04/05/2011 Morning workshop for area schools, William Penn Charter School, Philadelphia, PA

03/24/2011 World Premiere "The Finnish Phenomenon: Inside The World's Most Surprising School System, 6 pm National Press Club, Washington, DC

01/25/2011 Workshop & Keynote for the Association of California School Administrators in Monterrey, CA

01/12/2011 Keynote Wisconsin State Superintendents Conference in Madison, WI

01/11/2011 Keynote PA Department of Education Conference in Hershey, PA

12/08/2010 Keynote, Center of Excellence in Leadership of Learning Conference, Indianapolis, IN

11/18/2010 Keynote Iowa Association of School Boards, Des Moines, IA

11/12/2010 Keynote Oregon School Boards Association, Portland, OR

10/25/2010 Keynote New Jersey Association of Independent Schools Conference, Lawrenceville, NJ

10/22/2010 Keynote British Columbia Educators Conference, Vancouver, BC

10/15/2010 Keynote The Feast Conference of Young Innovators, NYC

10/14/2010 Keynote Wake Education Partnership Conference, Raleigh, NC

10/13/2010 Keynote, Pennsylvania School Boards Association, Harrisburg, PA

10/08/2010 Conference co-chair & Keynote speaker, The Education Project International Conference, Bahrain

BIOGRAPHICAL

Wagner's life work emanates from his own experience disliking school, not just some of the time, but all the time. He felt that fundamentally school was not helping him to understand the world. Within the classroom, he stared into space worrying about the Cuban Missile Crisis, thinking, "My God, what kind of crazy world are we living in?" He saw Martin Luther King Jr.'s speech and thought, "I should have been there." What mattered most to Wagner starkly juxtaposed with the flat classroom lessons he endured.

Later, as a high-school English teacher and Principal, he vowed to be different, though he was not sure what that meant or how to accomplish it. He had earned an Ivy-league Masters degree in education, but still, found no answers. Within the walls of his first school as a teacher, he began the life of a researcher, theorist, and activist; and adopted Einstein's belief that "the formulation of the problem is often more important than the solution."

In 1982, in the midst of tremendous anxiety about the potential for nuclear war, and fueled by discontented educators and students, he co-founded Educators for Social Responsibility (now called Engaging Schools) and grew the local 200-member organization to a national 10,000-member organization in four years, giving voice to educators who wanted to teach about controversial issues and to students who wanted to engage in topics that mattered to them. At the age of 34, the Today Show, News Hour, and the front page of the Wall Street Journal enabled Wagner to extend stakeholders' voices to the nation. This start-up experience reinforced his awareness that reframing the questions was what created true value.

Throughout the years that followed, it became clear to Wagner that educators and policy makers were trying to solve the wrong problems, and thus began his journey that has changed and continues to change the face of education.

Through many hundreds of speaking engagements to diverse audiences around the world, school consultations, and articles, Wagner ignited and continues to build a movement and a dialogue surrounding the transition from a knowledge economy to an innovation economy. He walks stakeholders through the history of the education system, which for 2,000 years, was based on knowledge scarcity. Students attended school in order to acquire more knowledge from the teacher which afforded the students a competitive advantage. With the introduction of the internet, search engines, and digital communication, we now experience the opposite: knowledge abundance. In this new era, a student does not need a teacher or a school to acquire knowledge. The competitive advantage no longer exists because a Google search finds the desired knowledge in seconds. Wagner's dialogue forces us to question the whole assumption of our knowledge-based education system and determine the new purpose of the 21st century and teacher.

CURRICULUM VITAE

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EDUCATION

- Ed.D. Harvard University, Graduate School of Education, Cambridge, MA. Teaching, Curriculum & Learning Environments, 1992. Dissertation title: *Portraits of Changing Schools*. Member, Editorial Board, *Harvard Educational Review*
- M.A.T. Harvard University, Graduate School of Education, Cambridge, MA. Secondary English & Social Studies, 1971
- B.A. Friends World College, Long Island, NY and Mexico. Humanities & Hispanic Language and Cultures, 1970

PROFESSIONAL EXPERIENCE

- 2014 - Expert in Residence, Harvard Innovation Lab. Mentoring Harvard students working on a range of education-related startups.
- 2010 - 2013 Innovation Education Fellow, Technology & Entrepreneurship Center at Harvard, School of Engineering & Applied Sciences. Researched topics related to innovation and education.
- 2000 - 2010 Founder & Co-Director, Change Leadership Group, Harvard Graduate School of Education, Cambridge MA. Directed research and building capacity for leadership teams engaged in K-12 systemic change initiatives, established with a five year \$3.4 million grant from the Bill & Melinda Gates Foundation.
- 1988 - Consultant for School Improvement. Clients have included numerous school districts, independent schools, the Massachusetts State Department of Education, the U.S. Department of Education, the Dodge Foundation, WK Kellogg Foundation, Cisco Systems, and Polaroid Corporation. Served as Senior Education Advisor to the Bill & Melinda Gates Foundation Education Division from 1999 - 2008.

- 2006 - 2008** Member of the Faculty, Harvard ExEL Institute, a collaboration of the Harvard Business School, Kennedy School of Government, and Graduate School of Education. Assisted in training school district teams for “systemic change,” and provided follow-up technical assistance to school districts.
- 1998 - 2002** Faculty Chair of the Harvard Institute on Public Engagement, Programs in Professional Education Harvard Graduate School of Education, Cambridge MA. Trained teams in strategies for improving public participation in school and district improvement efforts.
- 1995 - 2002** Member of the Faculty, Harvard Institute for School Leadership. Assisted in training school district teams for “systemic change” and provided follow-up technical assistance to school districts.
- 1998 - 2000** Senior Program Associate, Programs in Professional Education, Harvard Graduate School of Education, Cambridge MA. Created an onsite professional development program in Athens, Greece. Provided technical assistance to school districts in the U.S. and abroad.
- 1994 - 1998** President & CEO, Institute for Responsive Education, Boston, MA. Directed a major national school reform action research and demonstration project in seven school districts, sponsored by the Pew Charitable Trusts, and the Boston, Danforth, Hayden, Joyce, MacArthur, and C.S. Mott Foundations.
- Served as a Senior Researcher and Policy Analyst in a five year, federally-funded national study of charter schools with the Center on Families, Communities, Schools, and Children’s Learning at Boston University, a research and development laboratory funded by the U.S. Department of Education, Office of Educational Research and Improvement. (1994-96)
- 1991 - 1994** Assistant Professor, Department of Education, University of New Hampshire. Researched and completed *How Schools Change: Lessons from Three Communities*, a book that documents and analyzes the process of site-based school change efforts in three communities over several years through participant observation, document analysis, and interviews. Taught undergraduate and graduate courses on educational structure and change, and supervised teaching interns in public secondary schools.
- 1989 – 91** English Teacher, Brimmer & May School Taught 12th grade English in a Coalition of Essential Schools model school. Mentored first-year teachers.

- 1986 - 88** Project Director, Public Agenda Foundation, New York. Directed a \$4.6 million national research and policy development project, led by former Secretary of State Cyrus Vance, Howard Swearer, former President of Brown University, and Daniel Yankelovich.
- 1982 - 86** Co-founder and Executive Director, Educators for Social Responsibility, Cambridge, MA. Directed the start-up of a new national educational organization that grew to 10,000 members and 125 chapters in four years.
- Developed curricula on current social issues and citizenship education and created professional development programs for teaching critical thinking skills.
- 1980 - 82** Headmaster, Cambridge Friends School, Cambridge, MA. Responsible for all aspects of managing a racially and demographically diverse 200 student K-8 school.
- 1976 - 80** English and Social Studies Teacher, Grades 9-12, Sidwell Friends School, Washington, DC. Developed one of the first community service high school graduation requirements in the country. Taught Secondary English & Social Studies.
- 1971 - 76** Director, Project in Education, Walter Johnson High School, Bethesda, MD. Developed successful high school within-a-school. Taught English and social studies.

RECENT PROFESSIONAL SERVICE

- 2014 -** Advisor to education start-ups, including: Koru, Breaker, Edleader 21, NuVu Studio, Hewlett Foundation Deeper Learning Initiative, Teaching Garage
- 2013 -** Member of the Board, Squam Lakes Natural Science Center
- 2012 -** Member of the Board, The Future Project
- 1994 - 2000** Founding Member, Board of Directors, City On A Hill Charter School; Chair of the Board, 1998 - 2000
- 1997 - 1999** Member, Massachusetts State Legislature Blue Ribbon Task Force on Community Education
- 1996 - 1997** Member, Advisory Board, National Commission on Teaching & America's Future

MEDIA APPEARANCES

Wall Street Week in Review, PBS NewsHour, NBC “Today” Show, National Public Radio, “Talk of the Nation,” and numerous local television and radio programs around the country

SELECTED RECENT PUBLICATIONS

BOOKS

- 2015 *MOST LIKELY TO SUCCEED: Preparing Our Kids for The Innovation Era*, with Ted Dintersmith, New York: Scribner/Simon & Schuster
- 2012 *CREATING INNOVATORS: The Making of Young People Who Will Change The World*, New York: Scribner/Simon & Schuster (Paperback edition, 2015. There are 12 current or forthcoming foreign editions.)
- 2008 *THE GLOBAL ACHIEVEMENT GAP: Why Even Our Best Schools Don’t Teach The New Survival Skills Our Students Need—and What We Can Do About It*, New York: Basic Books. (2nd Edition published 2014.) There are three foreign editions.)
- 2006 *CHANGE LEADERSHIP: A Practical Guide to Transforming Our Schools*, with Robert Kegan, Lisa Lahey, Richard Lemons, Jude Garnier, Deborah Helsin, and Annie Howell, San Francisco: Jossey-Bass
- 2002 *MAKING THE GRADE: Reinventing America’s Schools*, New York: RoutledgeFalmer
- 1994 *HOW SCHOOLS CHANGE: Lessons from Three Communities*, foreword by Theodore R.Sizer, Boston: Beacon Press (2nd Second edition, New York: RoutledgeFalmer, 2000.)

DOCUMENTARY FILMS

- 2015 Served as Strategic Education Advisor for “Most Likely to Succeed,” A 2015 Sundance Film Festival selection directed by Greg Whiteley, One Potato Productions
- 2011 Served as Narrator and Advisor for “The Finland Phenomenon: Inside the World’s Most Surprising School System,” Produced By Robert A. Compton, Broken Pencil Productions.

ARTICLES/BOOK CHAPTERS

- 2015 "The Real Failure of Common Core," co-authored with Ted Dintersmith, Huffington Post Blog, August 18, 2015
- 2014 "The Future of Learning," chapter in *Imagine It Better: Visions of What School Might Be*, Edited by Luke Reynolds, (Portsmouth: Heinemann, 2014)
- 2012a "Educating The Next Steve Jobs," *Wall Street Journal*, April 14, 2012
- 2012b "Calling All Innovators," *Educational Leadership*, April 2012
- 2012c "Parenting A Young Innovator," CNN blog, April 18, 2012
- 2012d "To Bring Out The Best In Millennials, Put On Your Coaching Hat," *Fast Company Magazine*, online edition, May 30, 2012
- 2012e "Graduating All Students Innovation-Ready," *Education Week*, Commentary, online version published August 14, 2012
- 2012f "Accountability for What Matters Most," *School Administrator*, September 2012
- 2008a "Teaching and Testing The Skills That Matter Most," *Education Week* Commentary, November 12, 2008
- 2008b "Rigor Redefined," *Educational Leadership*, October 2008
- 2007 "Leading for Change: Five Habits of Mind That Count," *Education Week*, Commentary, August 15, 2007
- 2006 "Rigor on Trial," *Education Week*, Commentary, January 11, 2006
- 2004 "The Challenge of Change Leadership: Transforming Education through Communities of Practice," *Education Week*, Commentary, October 27, 2004
- 2003a "Beyond Testing: The Seven Disciplines for Strengthening Instruction," *Education Week*, Commentary, November 11, 2003
- 2003b "'Reinventing' America's Schools," *Phi Delta Kappan*, May 2003
- 2002 "Secondary School Change: Meeting the Challenge with the '3 R's' of Reinvention," *Education Week*, Commentary, November 27, 2002
- 2001a "The Case for 'New Village' Schools," *Education Week*, Commentary, December 5, 2001

- 2001b "Leadership for Learning: An Action Theory of School Change," *Phi Delta Kappan*, January, 2001
- 2001c "A Critical Fork in the Road: Toward 'Passing the Test'—or Toward Real Achievement?" *Education Week*, Commentary, April 11, 2001 (co authored by Tom Vander Ark)
- 2000 "Between Hope and Despair: The Case for Smaller High Schools," *Education Week*, Commentary, June 21, 2000 (with Tom Vander Ark)
- 1999a "Reflections on Columbine: Education Standards for the Heart?" *Education Week* Commentary, May 12, 1999
- 1999b "Reasons to Learn in the New Village Schoolhouse," *School Administrator*, December 1999
- 1998a "Change as Collaborative Inquiry: A 'Constructivist' Methodology for Reinventing Schools," *Phi Delta Kappan*, March, 1998
- 1998b "From Compliance to Collaboration: Four Qualities Needed to Change Schools," *Education Week*, April 22, 1998
- 1997 "The New Village Commons: Improving Schools Together," *Educational Leadership*, February, 1997
- 1996a "School Choice: To What End?" *Phi Delta Kappan*, September, 1996
- 1996b "Bringing School Reform Back Down To Earth," *Phi Delta Kappan*, October, 1996
- 1996c "Creating Community Consensus on Core Values: An Alternative to Character Education," Commentary *Education Week*, October 9, 1996
- 1996d "From the Bottom Up," in *Transforming Public Education: A New Course for America's Future*, edited by Evans Clinchy, New York: Teachers College Press, 1996
- 1995a "Seeking Common Ground: Goal-Setting with All Constituencies," *Educational Leadership*, December, 1995
- 1995b "Prerequisites for Scaling Up," *Education Week*, Commentary, May 24, 1995
- 1995c "Building A Shared Vision: Structured Dialogues About Important Questions," *New Schools, New Communities*, Spring, 1995
- 1995d "What's School Really For, Anyway: And Who Should Decide?," *Phi Delta Kappan*, January, 1995

- 1994 "Why Charter Schools?" *Education Week*, Commentary, June 22, 1994
- 1993a "Systemic Change: Rethinking the Purpose of School," *Educational Leadership*, September, 1993
- 1993b "Improving High Schools: The Case for New Goals & Strategies," *Phi Delta Kappan*, May, 1993
- 1988 "Does Father Always Know Best?" *The New York Times Magazine*, June 12, 1988
- 1987 "Educating for Excellence on an Endangered Planet," in *Social Issues and Education*, Association for Supervision and Curriculum Development, Washington, DC, 1987
- 1984 "New Ways of Teaching for the Nuclear Age," *Bulletin of Atomic Scientists*, December, 1984
- 1983a "Educating for Responsibility in the Nuclear Age," *Media & Methods Magazine*, November, 1983
- 1983b "Why Nuclear Education," *Educational Leadership*, May, 1983
- 1979 "Educating for Character," *Independent School*, October, 1979
- 1978a "Piaget on Moral Development," *Independent School*, October, 1978
- 1978b "Teaching Writing as Self-Expression," *Maryland English Journal*, Vol. 1, 1978
- 1977 "Learning Democratically," *The English Journal*, September, 1977
- 1976 "All is Quiet But Not All is Well in Suburbia," *Phi Delta Kappan*, April, 1976



Tony Wagner: "How Do We Develop Young People to Become Innovators?"

In the past, our country has produced innovators more by accident than by design. Rarely do entrepreneurs or innovators talk about how their schooling or their places of work -- or even their parents -- developed their talents or encouraged their aspirations. Three of the most innovative entrepreneurs of the last half century -- Edwin Land, the inventor of the Polaroid instant camera; Bill Gates; and Mark Zuckerberg, founder and CEO of Facebook -- had to drop out of Harvard to pursue their ideas. Apple's Steve Jobs; Michael Dell of Dell Computer; Larry Ellison, founder of the software giant Oracle; and the inventor Dean Kamen are other famous high-tech college dropouts.

So what would it mean if we were to intentionally [develop the entrepreneurial and innovative talents of all young people](#) -- to nurture their initiative, curiosity, imagination, creativity, and collaborative skills, as well as their analytical abilities -- along with essential qualities of character such as persistence, empathy, and a strong moral foundation? What can parents do to nurture these qualities? What do the most effective teachers and college professors do, and what can they -- and the young people themselves -- tell us about how schools and colleges need to change to teach these qualities? Finally, what can we learn from those who successfully mentor aspiring entrepreneurial innovators? These are the driving questions in this book.

How Do We Develop Young People to Become Innovators?

If we agree on the need to develop the capabilities of many more youth to be innovators, and if we agree that many of the qualities of an innovator can be nurtured and learned, the question now becomes, what do we do? Where do we start as parents, teachers, mentors, and employers?

Encourage Play

Research shows that human beings are born with an innate desire to explore, experiment, and imagine new possibilities -- to innovate.

How do children learn such skills? In a word -- through play.

And it's not just infants and children who learn through play. Joost Bonsen, who is an alumnus of the Massachusetts Institute of Technology and currently serves as a lecturer in the world-famous MIT Media Lab, talked about the importance of the famous tradition of pranks at the university.

"Being innovative is central to being human." Bonsen told me. "We're curious and playful animals, until it's pounded out of us. Look at the tradition of pranks here at MIT. What did it take to put a police car on a dome that was fifteen stories high [one of most famous MIT student pranks], with a locked trapdoor being the only access? It was an incredible engineering feat. To pull that off was a systems problem, and it took tremendous leadership and teamwork.

"Pranks reinforce the cultural ethos of creative joy." Joost added. "Getting something done in a short period of time with no budget, and challenging circumstances. It's glorious and epic. They didn't ask for permission. Not even forgiveness."

<http://www.wise-qatar.org/tony-wagner-innovation-education>

These students were playing -- just doing something for the fun of it. Play, then, is part of our human nature and an intrinsic motivation.

Encourage Passion

Passion is familiar to all of us as an intrinsic motivation for doing things. The passion to explore, to learn something new, to understand something more deeply; to master something difficult. We see these passions all around us and have likely experienced them for ourselves.

In more than one hundred and fifty interviews [for my book](#) -- lengthy conversations with innovators and their parents, teachers, and mentors -- *passion* was the most frequently recurring word.

Encourage Purpose

Pure passion, by itself, is not enough to sustain the motivation to do difficult things and to persevere -- in love or in work! In my research, I observe that young innovators almost invariably develop a passion to learn or do something as adolescents, but their passions evolve through learning and exploration into something far deeper, more sustainable, and trustworthy -- purpose.

The sense of purpose can take many forms. But the one that emerged most frequently in my interviews and in the interviews by the authors of "the Innovator's DNA" is the desire to somehow "make a difference"

In the lives of young innovators whom I interviewed, I discovered a consistent link and developmental arc in their progression from play to passion to purpose. They played a great deal -- but their play was frequently far less structured than most children's, and they had opportunities to explore, experiment, and discover through trial and error -- to take risks and to fall down. Through this kind of more creative play as children, these young innovators discovered a passion. As they pursued their passions, their interests changed and took surprising turns. They developed new passions, which, over time, evolved into a deeper and more mature sense of purpose -- a kind of shared adult play.

These young innovators did not learn these things alone. They received help from parents, teachers, and mentors along the way. Their evolution as innovators was almost invariably facilitated by at least one adult -- and often several. What these parents, teachers, and mentors did that was so helpful may surprise you. Each, in his or her own quiet way, is often following a different, less conventional path in his or her role as a parent, teacher, or mentor. They acted differently so that the young people with whom they interacted could think differently.

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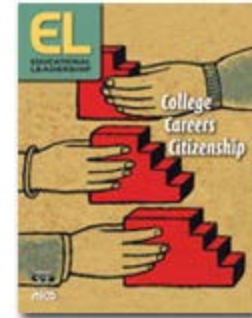


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College, Careers, Citizenship Pages 66-69

Calling All Innovators

Tony Wagner

Our students want to change the world. But to give them the skills they need to do so, schools must focus on five essential practices.



April 2012

In their recent book *That Used to Be Us*,¹ Thomas Friedman and Michael Mandelbaum argue that to succeed in the new global knowledge economy, all young people must learn to be innovators. U.S. workers who cannot bring innovation to their work will see their jobs increasingly off-shored or automated. Policymakers, economists, and business people may fiercely debate which specific approaches will solve the current worldwide economic crisis, but most of them agree on one thing: A nation's long-term economic health depends on innovation.

In the last few years, I have explored the question of how U.S. schools can educate young people to become innovators. I've interviewed scores of highly innovative 20-somethings—budding engineers and scientists, artists and musicians, entrepreneurs seeking better ways to solve societal problems, and others—and then studied the parental, educational, and mentoring influences that they told me were most important in their development.

I found that many young Americans in this millennial generation have a strong desire to do meaningful work and make a difference in the world. But I also discovered that even those who have attended the most prestigious high schools and colleges have most often become innovators *in spite of* their schooling, not because of it. Having all students graduate from high school "college-ready" is the new mantra of policymakers and educators alike, but the reality is that the overwhelming majority of U.S. high schools and colleges are not preparing students to become innovators.

Education for Innovation: Five Essentials

Despite this generally bleak picture, some extraordinary high schools, colleges, and graduate schools are doing an outstanding job of educating young people to be innovators—places like High Tech High in San Diego, California; the more than 80 New Tech high schools in 16 states; Olin College in Needham, Massachusetts; the Institute of Design at Stanford University; and the Media Lab at the Massachusetts Institute of Technology. The culture of learning in these highly successful and popular programs is radically at odds with the culture of schooling in most classrooms. Here are five essential differences.

Collaboration Versus Individual Achievement

Conventional schooling in the United States celebrates and rewards individual achievement

while offering few meaningful opportunities for genuine collaboration. Students are ranked and sorted according to their levels of achievement as measured by tests and grades. Serious and sustained collaboration is not a real expectation, either for students or for faculty.

Not so at the programs mentioned above, which understand that collaboration is essential for innovation. Every class requires teamwork and collaboration, and learning to collaborate is one of the most highly valued outcomes. For example, at High Tech High, a 9th grade requirement is for teams of students to develop a new business concept—imagining a new product or service, writing a business and marketing plan, and developing a budget. The teams must then present their plans to a panel of business leaders whom the school invites to assess students' projects. All seniors must also complete a service learning project in teams as a condition of graduation.

Multidisciplinary Learning Versus Specialization

Expertise and specialization will always have an important role, and learning for its own sake has enormous value. However, innovation requires knowing how to apply an interdisciplinary approach to solve a problem or create something new. Judy Gilbert, the director of talent at Google, told me that learning to solve problems across disciplinary boundaries is one of the most important things that schools can teach students to prepare them to work at companies like Google.

High schools and colleges that create a culture of innovation know this, so most of their courses focus on answering a question or solving a problem using multiple academic disciplines. At Olin College, one-half of the students create their own interdisciplinary majors. One Olin senior whom I interviewed had a deep interest in the history of cities and the challenge of environmental sustainability. She developed an interdisciplinary major, with a combined humanities, engineering, and ecological focus, around the problem of how to create sustainable cities.

Trial and Error Versus Risk Avoidance

The most innovative companies celebrate failure. At IDEO, a design and consulting firm that is consistently recognized as one of the most innovative companies in the world, the motto is, "Fail early and often." Most high school and college classes penalize failure and thus discourage students from taking intellectual risks. In contrast, schools with a culture of innovation teach students to view trial and error—and failure—as integral to the problem-solving process.

One Olin college student told me, "We don't talk about failure here. We talk about iteration." Students at Olin often become interested in a particular problem and begin working on a possible solution in a class, and then complete some kind of prototype or version 1.0 as a project for the course. They then continue to study the problem and evolve the project in succeeding classes, with feedback from their peers and teachers.

Creating Versus Consuming

Students' experience in most high school and college courses focuses on acquiring knowledge by passively listening to lectures. In contrast, in schools with a culture of innovation, the primary goal is to acquire knowledge and develop skills while solving a problem, creating a product, or generating a new understanding. Students are creators, not mere consumers. They acquire knowledge on an as-needed basis, as a means to an end.

The range of projects I found in the schools mentioned above was stunning. For example, at High Tech High, I interviewed a young woman who had created an elementary curriculum for teaching about the ecology of the San Diego Bay. At Olin, I talked to a team of 10 students

who had designed and built a remotely controlled model sailboat for an international competition, learning an enormous amount about mechanical and electrical engineering, computer science, weather, and sailing strategy in the process. These students understand and retain far more of what they learn because they have studied and used the knowledge in an applied context.

Intrinsic Versus Extrinsic Motivation

Conventional academic classes rely on extrinsic incentives as motivators for learning. Although many teachers may espouse the value of learning for its own sake, they nevertheless rely heavily on traditional carrots and sticks to ensure that students come to class and learn the material.

Perhaps the most important finding of my research is that young innovators are not primarily motivated by extrinsic incentives. Even those who come from families that have struggled economically are intrinsically motivated. As a consequence, the programs that do the best job of educating young innovators focus on intrinsic motivations for learning through a combination of play, passion, and purpose: playful, discovery-based learning leads young people to find and pursue a passion, which eventually evolves into a deeper sense of purpose.

Portrait of an Innovating Teacher

The Intel Science Talent Search, the oldest and most prestigious pre-collegiate science competition in the United States, annually awards more than \$1.25 million in prizes and scholarships. Amanda Alonzo, a science teacher at Lynbrook High School in San Jose, California, has mentored two Intel Science Prize finalists and 10 semifinalists in the last two years—more than any other public school teacher in the United States. Her secret? Using the five essential practices described here to create a culture of innovation in her after-school, noncredit Intel Club.

Amanda requires students to work in pairs to develop and refine their research project concepts. The projects they pursue always demand a multidisciplinary approach and must result in the creation of something useful. For example, one of her students is working on a smartphone application that uses the phone's camera to track the eye movements of someone who has been drinking alcohol to determine whether it would be safe for that person to drive. To develop this app, the student needed to know about the biology of sight, the physics of light, engineering, and computer programming. Presenting her project required speaking, writing, and graphic skills. Establishing the product's social relevance required social science knowledge and logical thinking.

Amanda also recognizes the importance of giving the students ownership of what they are learning and making the work fun so that they are motivated to persevere in spite of failures. "One of the most important things I have to teach them," she commented, "is that when you fail, you are learning. I show them examples of where other scientists didn't get results either."

Amanda believes her Intel Club students are learning far more science than are students in her regular classes, where she has to cover the content required for state tests at a pace that allows less time for inquiry, exploration, or discovery. And she refuses to teach advanced placement courses because she believes they are far too content-driven. Amanda explained,

In my required classes, I have state standards that I have to teach, which are all about content knowledge. Students have to know that mitochondria make energy. Whereas in the noncredit seminars where I introduce students to the scientific method as a preparation for the Intel competition, I am teaching them how to *figure out* that mitochondria make energy, as well as how to ask good questions, problem

solve, and come up with novel solutions.

After students in her regular biology class have taken the state test, she has each student develop a research proposal on a topic of interest to him or her and present it to the class. "Many go on to pursue their ideas for experiments on their own or join the Intel Club in the fall," she added.

Creating Innovation-Driven Schools

To motivate today's students and prepare them for a world that will require them to innovate, educators must be far more intentional in designing cultures of innovation that foster the skills that matter most. But we cannot mandate that teachers or school systems develop such cultures. The education environment must inspire and encourage educators to innovate.

Policymakers need to promote the development of more authentic, performance-based forms of assessment, such as digital portfolios that follow students from 1st grade as a record of their progressive mastery of the skills and dispositions of innovators. Schools need to provide focused professional development that enables teachers to create hands-on, project-based, interdisciplinary courses. Larger school districts and states should establish laboratory schools that can pioneer these new approaches to teaching, curriculum, and assessment. As we create many more transparent models of success, the skeptics will better understand both what is possible and what is necessary for a better future, thus creating more demand for innovation in classrooms.

The education profession has traditionally been risk-averse, and current punitive accountability systems have greatly exacerbated this tendency. Do we have the courage and sense of urgency needed to make a radical break from the old ways and create schools with the cultures of innovation that our students want and our economy needs? Can many more educators become innovators? Can we work together to ensure that all students graduate from high school innovation-ready?

Endnote

¹ Friedman, T. L., & Mandelbaum, M. (2011). *That used to be us: How America fell behind in the world it invented and how we can come back*. New York: Farrar, Straus, and Giroux.

Editor's note: An expanded discussion of the themes in this article can be found in Tony Wagner's new book *Creating Innovators: The Making of Young People Who Will Change the World* (Scribner/Simon and Schuster, 2012). The book contains links to more than 60 videos that the reader can access through QR codes in the text, including an interview with Amanda. View a trailer for the book at www.creatinginnovators.com.

Tony Wagner is the first innovation education fellow at the Technology and Entrepreneurship Center at Harvard University. He is the author of five books on education, including *The Global Achievement Gap* (Basic Books, 2008). Tony can be e-mailed via his [website](#).

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The New York Times

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Need a Job? Invent It

By **THOMAS L. FRIEDMAN**

WHEN Tony Wagner, the Harvard education specialist, describes his job today, he says he's "a translator between two hostile tribes" — the education world and the business world, the people who teach our kids and the people who give them jobs. Wagner's argument in his book "Creating Innovators: The Making of Young People Who Will Change the World" is that our K-12 and college tracks are not consistently "adding the value and teaching the skills that matter most in the marketplace."

This is dangerous at a time when there is increasingly no such thing as a high-wage, middle-skilled job — the thing that sustained the middle class in the last generation. Now there is only a high-wage, high-skilled job. Every middle-class job today is being pulled up, out or down faster than ever. That is, it either requires more skill or can be done by more people around the world or is being buried — made obsolete — faster than ever. Which is why the goal of education today, argues Wagner, should not be to make every child "college ready" but "innovation ready" — ready to add value to whatever they do.

That is a tall task. I tracked Wagner down and asked him to elaborate. "Today," he said via e-mail, "because knowledge is available on every Internet-connected device, what you know matters far less than what you can do with what you know. The capacity to innovate — the ability to solve problems creatively or bring new possibilities to life — and skills like critical thinking, communication and collaboration are far more important than academic knowledge. As one executive told me, 'We can teach new hires the content, and we will have to because it continues to change, but we can't teach them how to think — to ask the right questions — and to take initiative.'"

My generation had it easy. We got to "find" a job. But, more than ever, our kids will have to "invent" a job. (Fortunately, in today's world, that's easier and cheaper than ever before.) Sure, the lucky ones will find their first job, but, given the pace of change today, even they will have to reinvent, re-engineer and reimagine that job much more often than their parents if they want to advance in it. If that's true, I asked Wagner, what do young people need to know today?

"Every young person will continue to need basic knowledge, of course," he said. "But they will need skills and motivation even more. Of these three education goals, motivation is the most critical. Young people who are intrinsically motivated — curious, persistent, and willing to take risks — will learn new knowledge and skills continuously. They will be able to find new

opportunities or create their own — a disposition that will be increasingly important as many traditional careers disappear.”

So what should be the focus of education reform today?

“We teach and test things most students have no interest in and will never need, and facts that they can Google and will forget as soon as the test is over,” said Wagner. “Because of this, the longer kids are in school, the less motivated they become. Gallup’s recent survey showed student engagement going from 80 percent in fifth grade to 40 percent in high school. More than a century ago, we ‘reinvented’ the one-room schoolhouse and created factory schools for the industrial economy. Reimagining schools for the 21st-century must be our highest priority. We need to focus more on teaching the skill and will to learn and to make a difference and bring the three most powerful ingredients of intrinsic motivation into the classroom: play, passion and purpose.”

What does that mean for teachers and principals?

“Teachers,” he said, “need to coach students to performance excellence, and principals must be instructional leaders who create the culture of collaboration required to innovate. But what gets tested is what gets taught, and so we need ‘Accountability 2.0.’ All students should have digital portfolios to show evidence of mastery of skills like critical thinking and communication, which they build up right through K-12 and postsecondary. Selective use of high-quality tests, like the College and Work Readiness Assessment, is important. Finally, teachers should be judged on evidence of improvement in students’ work through the year — instead of a score on a bubble test in May. We need lab schools where students earn a high school diploma by completing a series of skill-based ‘merit badges’ in things like entrepreneurship. And schools of education where all new teachers have ‘residencies’ with master teachers and performance standards — not content standards — must become the new normal throughout the system.”

Who is doing it right?

“Finland is one of the most innovative economies in the world,” he said, “and it is the only country where students leave high school ‘innovation-ready.’ They learn concepts and creativity more than facts, and have a choice of many electives — all with a shorter school day, little homework, and almost no testing. In the U.S., 500 K-12 schools affiliated with Hewlett Foundation’s Deeper Learning Initiative and a consortium of 100 school districts called EdLeader21 are developing new approaches to teaching 21st-century skills. There are also a growing number of ‘reinvented’ colleges like the Olin College of Engineering, the M.I.T. Media Lab and the ‘D-school’ at Stanford where students learn to innovate.”

Educational Leadership

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Rigor Redefined

Tony Wagner

Even our “best” schools are failing to prepare students for 21st-century careers and citizenship.

In the new global economy, with many jobs being either automated or “off-shored,” what skills will students need to build successful careers? What skills will they need to be good citizens? Are these two education goals in conflict?

To examine these questions, I conducted research beginning with conversations with several hundred business, nonprofit, philanthropic, and education leaders. With a clearer picture of the skills young people need, I then set out to learn whether U.S. schools are teaching and testing the skills that matter most. I observed classrooms in some of the nation's most highly regarded suburban schools to find out whether our “best” was, in fact, good enough for our children's future. What I discovered on this journey may surprise you.

The Schooling Students Need

One of my first conversations was with Clay Parker, president of the Chemical Management Division of BOC Edwards—a company that, among other things, makes machines and supplies chemicals for the manufacture of microelectronics devices. He's an engineer by training and the head of a technical business, so when I asked him about the skills he looks for when he hires young people, I was taken aback by his answer.

“First and foremost, I look for someone who asks good questions,” Parker responded. “We can teach them the technical stuff, but we can't teach them how to ask good questions—how to think.”

“What other skills are you looking for?” I asked, expecting that he'd jump quickly to content expertise.

“I want people who can engage in good discussion—who can look me in the



eye and have a give and take. All of our work is done in teams. You have to know how to work well with others. But you also have to know how to engage customers—to find out what their needs are. If you can't engage others, then you won't learn what you need to know.”

I initially doubted whether Parker's views were representative of business leaders in general. But after interviewing leaders in settings from Apple to Unilever to the U.S. Army and reviewing the research on workplace skills, I came to understand that the world of work has changed profoundly.

Today's students need to master seven survival skills to thrive in the new world of work. And these skills are the same ones that will enable students to become productive citizens who contribute to solving some of the most pressing issues we face in the 21st century.

1. Critical Thinking and Problem Solving

To compete in the new global economy, companies need their workers to think about how to continuously improve their products, processes, or services. Over and over, executives told me that the heart of critical thinking and problem solving is the ability to ask the right questions. As one senior executive from Dell said, “Yesterday's answers won't solve today's problems.”

Ellen Kumata, managing partner at Cambria Associates, explained the extraordinary pressures on leaders today. “The challenge is this: How do you do things that haven't been done before, where you have to rethink or think anew? It's not incremental improvement any more. The markets are changing too fast.”

2. Collaboration and Leadership

Teamwork is no longer just about working with others in your building. Christie Pedra, CEO of Siemens, explained, “Technology has allowed for virtual teams. We have teams working on major infrastructure projects that are all over the U.S. On other projects, you're working with people all around the world on solving a software problem. Every week they're on a variety of conference calls; they're doing Web casts; they're doing net meetings.”

Mike Summers, vice president for Global Talent Management at Dell, said that his greatest concern was young people's lack of leadership skills. “Kids just out of school have an amazing lack of preparedness in general leadership skills and collaborative skills,” he explained. “They lack the ability to influence.”

3. Agility and Adaptability

Clay Parker explained that anyone who works at BOC Edwards today “has to think, be flexible, change, and use a variety of tools to solve new problems. We change what we do all the time. I can guarantee the job I hire someone to do will change or may not exist in the future, so this is why adaptability

and learning skills are more important than technical skills.”

4. Initiative and Entrepreneurialism

Mark Chandler, senior vice president and general counsel at Cisco, was one of the strongest proponents of initiative: “I say to my employees, if you try five things and get all five of them right, you may be failing. If you try 10 things, and get eight of them right, you're a hero. You'll never be blamed for failing to reach a stretch goal, but you will be blamed for not trying. One of the problems of a large company is risk aversion. Our challenge is how to create an entrepreneurial culture in a larger organization.”

5. Effective Oral and Written Communication

Mike Summers of Dell said, “We are routinely surprised at the difficulty some young people have in communicating: verbal skills, written skills, presentation skills. They have difficulty being clear and concise; it's hard for them to create focus, energy, and passion around the points they want to make. If you're talking to an exec, the first thing you'll get asked if you haven't made it perfectly clear in the first 60 seconds of your presentation is, ‘What do you want me to take away from this meeting?’ They don't know how to answer that question.”

Summers and other leaders from various companies were not necessarily complaining about young people's poor grammar, punctuation, or spelling—the things we spend so much time teaching and testing in our schools. Although writing and speaking correctly are obviously important, the complaints I heard most frequently were about fuzzy thinking and young people not knowing how to write with a real voice.

6. Accessing and Analyzing Information

Employees in the 21st century have to manage an astronomical amount of information daily. As Mike Summers told me, “There is so much information available that it is almost too much, and if people aren't prepared to process the information effectively it almost freezes them in their steps.”

It's not only the sheer quantity of information that represents a challenge, but also how rapidly the information is changing. Quick—how many planets are there? In the early 1990s, I heard then-Harvard University president Neil Rudenstine say in a speech that the half-life of knowledge in the humanities is 10 years, and in math and science, it's only two or three years. I wonder what he would say it is today.

7. Curiosity and Imagination

Mike Summers told me, “People who've learned to ask great questions and have learned to be inquisitive are the ones who move the fastest in our environment because they solve the biggest problems in ways that have the most impact on innovation.”

Daniel Pink, the author of *A Whole New Mind*, observes that with increasing abundance, people want unique products and services: “For businesses it's

no longer enough to create a product that's reasonably priced and adequately functional. It must also be beautiful, unique, and meaningful."¹ Pink notes that developing young people's capacities for imagination, creativity, and empathy will be increasingly important for maintaining the United States' competitive advantage in the future.

The Schooling Students Get

I've spent time observing in classrooms across the United States for more than 20 years. Here is a sampling of what I've seen recently. These examples come from secondary honors and advanced placement (AP) classes in three school systems that enjoy excellent reputations because of their high test scores.

AP Chemistry

Students work in groups of two and three mixing chemicals according to directions written on the chalkboard. Once the mixtures are prepared, students heat the concoction with Bunsen burners. According to the directions on the board, they are supposed to record their observations on a worksheet.

I watch a group of three young men whose mixture is giving off a thin spiral of smoke as it's being heated—something that none of the other students' beakers are doing. One student looks back at the chalkboard and then at his notes. Then all three stop what they are doing, apparently waiting for the teacher to come help them.

"What's happening to your mixture?" I ask the group.

"Dunno," one mutters. "We must have mixed it up wrong."

"What's your hypothesis about what happened—why it's smoking?"

The three look at one another blankly, and the student who has been doing all the speaking looks at me and shrugs.

AP U.S. Government

The teacher is reviewing answers to a sample test that the class took the previous day. The test contains 80 multiple-choice questions related to the functions and branches of the federal government.

When he's finished, he says "OK, now let's look at some sample free-response questions from previous years' AP exams." He flips the overhead projector on and reads from the text of a transparency: "*Give three reasons why the Iron Triangle may be criticized as undemocratic.* How would you answer this question?"

No one replies.

"OK, who can give me a definition of the Iron Triangle?"

A student pipes up, "The military-industrial-congressional complex."

"OK, so what would be three reasons why it would be considered

undemocratic?" The teacher calls on a student in the front row who has his hand half raised, and he answers the question in a voice that we can't hear over the hum of the projector's fan.

"Good. Now let's look at another one." The teacher flips another transparency onto the projector. "Now this question is about bureaucracy. Let me tell you how to answer this one. . . ."

AP English

The teacher explains that the class is going to review students' literature notes for the advanced placement exam next week. The seven students are deeply slouched in their chairs, arranged in a semicircle around the teacher's desk.

The teacher asks, "Now what is Virginia Woolf saying about the balance between an independent life versus a social life?"

Students ruffle through their notebooks. Finally, a young woman, reading from her notes, answers, "Mrs. Ramsey sought meaning from social interactions."

"Yes, that's right. Now what about Lily, the artist? How did she construct meaning?"

"Through her painting," another student mumbles, her face scrunched close to her notes.

"So what is Woolf saying about the choices these two women have made, and what each has sacrificed?"

No reply. The teacher sighs, gets up, goes to the board, and begins writing.

A Rare Class

Once in a great while, I observe a class in which a teacher is using academic content to develop students' core competencies. In such a class, the contrast with the others is stark.

At the beginning of the period in an Algebra II class, the teacher writes a problem on the board. He turns to the students, who are sitting in desks arranged in squares of four that face one another. "You haven't seen this kind of problem before," he explains. "Solving it will require you to use concepts from both geometry and algebra. Each group will try to develop at least two different ways to solve this problem. After all the groups have finished, I'll randomly choose someone from each group who will write one of your proofs on the board, and I'll ask that person to explain the process your group used."

The groups quickly go to work. Animated discussion takes place as students pull the problem apart and talk about different ways to solve it. While they work, the teacher circulates from group to group. When a student asks a question, the teacher responds with another question: "Have you considered . . .?" "Why did you assume that?" or simply "Have you asked someone in

your group?”

What makes this an effective lesson—a lesson in which students are learning a number of the seven survival skills while also mastering academic content? First, students are given a complex, multi-step problem that is different from any they've seen in the past. To solve it, they have to apply critical-thinking and problem-solving skills and call on previously acquired knowledge from both geometry and algebra. Mere memorization won't get them far. Second, they have to find two ways to solve the problem, which requires initiative and imagination. Third, they have to explain their proofs using effective communication skills. Fourth, the teacher does not spoon-feed students the answers. He uses questions to push students' thinking and build their tolerance for ambiguity. Finally, because the teacher announces in advance that he'll randomly call on a student to show how the group solved the problem, each student in every group is held accountable. Success requires teamwork.

Rigor for the 21st Century

Across the United States, I see schools that are succeeding at making adequate yearly progress but failing our students. Increasingly, there is only one curriculum: test prep. Of the hundreds of classes that I've observed in recent years, fewer than 1 in 20 were engaged in instruction designed to teach students to think instead of merely drilling for the test.

To teach and test the skills that our students need, we must first redefine excellent instruction. It is not a checklist of teacher behaviors and a model lesson that covers content standards. It is working with colleagues to ensure that all students master the skills they need to succeed as lifelong learners, workers, and citizens. I have yet to talk to a recent graduate, college teacher, community leader, or business leader who said that not knowing enough academic content was a problem. In my interviews, everyone stressed the importance of critical thinking, communication skills, and collaboration.

We need to use academic content to teach the seven survival skills every day, at every grade level, and in every class. And we need to insist on a combination of locally developed assessments and new nationally normed, online tests—such as the College and Work Readiness Assessment (www.cae.org)—that measure students' analytic-reasoning, critical-thinking, problem-solving, and writing skills.

It's time to hold ourselves and all of our students to a new and higher standard of rigor, defined according to 21st-century criteria. It's time for our profession to advocate for accountability systems that will enable us to teach and test the skills that matter most. Our students' futures are at stake.

Endnote

¹ Pink, D. (2005). *A whole new mind: Moving from the information age to the conceptual age*. New York: Riverhead Books, pp. 32–33.



Erik Kain Contributor

I write about the intersection of entertainment and technology.

Opinions expressed by Forbes Contributors are their own.

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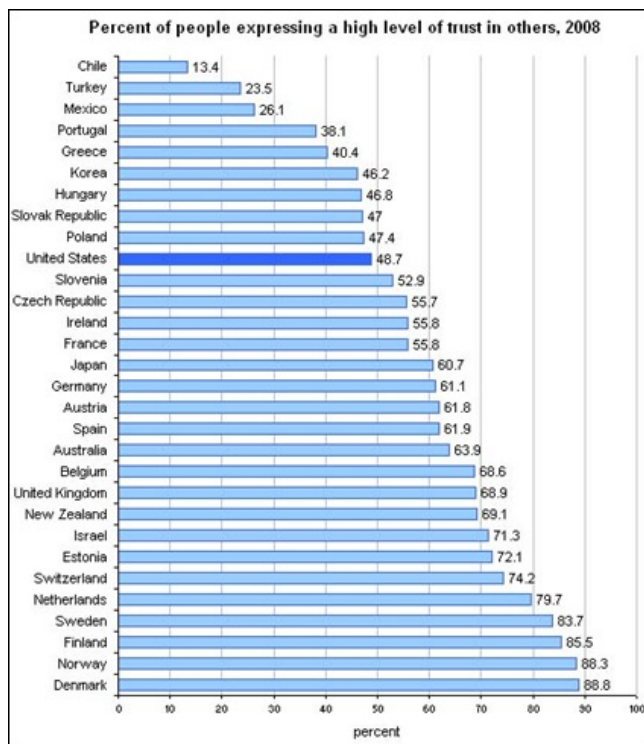
The Finland Phenomenon: Inside the World's Most Surprising School System

[Comment Now](#)

[The Finland Phenomenon](#), from documentary filmmaker, Bob Compton, follows Dr. Tony Wagner through Finland's extraordinary school system. It's a short, to-the-point documentary, but it had quite an effect on me, if only because it illustrates so succinctly why our recent approach to education reform is so wrong-headed.

In Finland there are no standardized tests. In fact, there is really very little testing at all. Finnish teachers are not monitored or rated based on test scores, and teachers (as well as their students) have a great deal of autonomy. It is a system built on trust, and the film really drives home the notion that trust – rather than faux accountability – leads to real results, leads to teachers and students and members of government all wanting to live up to the trust given to them rather than simply scraping by.

But trust is something that a society has to work at, and that is tied inextricably to demographics, population size, and history. And the United States simply doesn't compare to Finland on the trust scale:



To be honest, I finished the film feeling a bit angry – angry that for all the talk of school-choice in our current education debate, the choices available to me and to my children (not to mention the countless people far less fortunate than myself) are really false choices. No matter whether you attend a public school or a charter, you are really bound to the modern testing regime. And if you're poor you are very likely bound to end up in a bad school, unless you are one of the lucky few that manages to get into one of the really stellar charter schools.

The problem, I think, with the current conception of charter schools is that they create even more losers and winners than the status quo. In Finland there is a certain base-level of quality that every school is required to meet. Teachers are treated as professionals and teaching is an exclusive, competitive field. All students have free transportation and free meals.

Every school is staffed by excellent teachers, and teaching is a profession that excellent people want to enter. Teaching is a life-long career, unlike American schools where 50% of teachers drop-out before five years. Finnish teachers follow a basic national curriculum, but are free to develop their own and use their own teaching methods. They also work as mentors with newer and student teachers.

In America, we have nothing even close to this level of commitment to our poorest students. In the modern reform system and in the old status quo, money flows up to the top and rarely trickles back down. This is represented also in our lack of commitment to vocational education. *The Finland Phenomenon* illustrates the extraordinary effort the Finnish school system

has placed in its vocational track. Fully 40% of Finnish students forego the academic track to learn a skill in their high school years. And these are not under-funded shop classes, but rather high-tech, hands-on classrooms taught by industry professionals who are *also teaching professionals*.

I'd heard of the successes of Finland's schools before, but this film really highlighted the gap in vision between Finland and the United States. At the same time, it revealed a certain common ground that I think is important. Unlike the strict, uniform approach to education you might find in a country like Japan, Finland emphasizes a more free-wheeling, creative, and self-driven approach to teaching and learning. These are all qualities Americans have in spades. We should capitalize on those qualities, not subvert them by testing everything to death.

If we can draw one lesson from the film, it is that America has the right DNA for a phenomenal education system, we just haven't tapped into it yet. Finland has, and so can we.

The Finland Phenomenon: Inside the World's M...



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Reviews of *Most Likely To Succeed* (Print)

Daniel H. Pink, author of *DRIVE* and *A WHOLE NEW MIND*: "Tony Wagner and Ted Dintersmith want us to stop thinking about success for our children in terms of test scores, and start concentrating on real learning, creative problem-solving, and the joy of discovery. And instead of just diagnosing the ills of our education system, they also offer a remedy in the form of a complete re-imagining of what high-quality education for all could and should be. *Most Likely to Succeed* is a book for everyone interested in seeing our children thrive in the 21st century."

Laszlo Bock, SVP of People at Google and author of *WORK RULES!*: "Bracing, revelatory, and always backed up with hard facts, *Most Likely to Succeed* should top the reading list for any teacher, parent, citizen, or high school or college student. Wagner and Dintersmith's incisive prose slices through the politics to show—without pointing fingers—how schools can refocus to prepare our children for the jobs of the future."

Anya Kamenetz, author of *THE TEST* and *DIY U*: "This is an urgently needed and inspiring book, with two authors who have the first-hand experience to blueprint a bridge from the schools we have to the future we need."

Sir Ken Robinson PhD, author of "Creative Schools: The Grassroots Revolution That's Transforming Education": "A searing and urgent indictment of the damaging priorities of American education and a fully grounded, practical vision of how to re-imagine it for the world we live in now. In plain language, Ted Dintersmith and Tony Wagner tell it like it is and how it really must be if America's students, economy and civil democracy are to survive and flourish in the 21st century. A compelling and important book."

Adam Braun, "New York Times" bestselling author and Founder of Pencils of Promise: "If you read one book about education this decade, make it this one. I couldn't put it down, and neither will you."

Randi Weingarten, President, American Federation of Teachers: "Wagner and Dintersmith cut through the noise to demonstrate how our education system must move from a myopic focus on high-stakes testing to an emphasis on preparing students more holistically for life, career, college and citizenship. They call for systemic changes to ensure that teachers have the time, tools and trust they need to empower kids with a passion for learning and to teach the critical skills students will need in the 21st century economy."

Reviews of *Creating Innovators*

USA Today: "A road map for parents who want to sculpt their children into innovative thinkers."

Daniel H. Pink, author of *Drive* and *A Whole New Mind*: "In this fascinating book, Tony Wagner addresses one of our most urgent questions: How do we create the next generation of innovators? By telling the stories of young creators, and by taking us inside cutting-edge programs, Wagner shows that the answer isn't to double-down on outmoded, formulaic solutions—but to embrace the principles of play, passion, and purpose. *Creating Innovators* is important reading for anyone concerned about the future."

Mitch Daniels, Governor, State of Indiana: "In the equation of world success, superior innovation is the only factor that can keep America #1. Two passionate citizens, innovators in their own right, have produced a compelling prescription for our time. Read it, watch it, and spread the word."

Dr. Annmarie Neal Founder, Center for Leadership Innovation and Former Chief Talent Officer, Cisco Systems: "To combat the competitive threat from economies like Brazil, Russia, India and China, we must develop empowered entrepreneurs and innovators. *Creating Innovators* is a masterful work that shows us how. Tony Wagner's case

studies reveal more about these fine innovators than he may have realized. World leaders, business executives, educators, policy makers and parents, take note!"

Tim Brown, CEO of IDEO: "Tony Wagner makes a compelling case for how our education system has to change if we are to create the innovators we need to face tomorrow's challenges. If you are an educator, a parent of a child struggling with conventional education, or an employer looking to have a pipeline of creative talent, then read this book, take note of the ideas and play your part in creating the change we must make happen."

Brad Anderson, former CEO, Best Buy Corporation: "In my life I have met and worked with individuals who help create the world they live in—innovators. Their lives are so much more fulfilling than people who live in a world of someone else's creation. This book, in a clear, tangible way, explores how to help young people access skills of innovation and lead richer lives."

Dr. Tony Bennett, Indiana Superintendent of Public Instruction: "In just the click of a mouse, we left the Industrial Age for the Information Age. Now just as quickly, we find ourselves in a new age of our society and economy; the Innovation Age. Tony Wagner and Bob Compton have provided a powerful tool for parents, educators and students seeking success in this new society and economy."

Clayton Christensen, Professor, Harvard Business School, and author of *Disrupting Class*: "Many have written about the paucity of innovation in America. Others have chronicled our schools' struggles to improve on dimensions of skills that matter. In this book, Wagner has positioned himself astride these critical challenges in a way that clarifies what we must do to address these problems, and how we can do it—making this a must read for anyone interested in the education of our nation."

Kirkus: "A seminal analysis promising hope for the future through small wonders in the classroom."

Reviews of *The Global Achievement Gap*

Howard Gardner, author of *Five Minds for the Future* and *Multiple Intelligences*: "In this persuasive book, Wagner delineates what skills are needed in a globalized era, why most American schools can't nurture them, and how today's schools could be transformed to cultivate tomorrow's skills."

Jay Mathews, *Washington Post*: "*I consider this book more of an experience than a read...[Tony Wagner] is a likely leader for the new era.*"

***Educated Quest*:** "*If I had the money, I would buy a copy of this book for every governor, congressman and senator; this book presents a far better direction for education politics than the current thoughts from Washington...The Global Achievement Gap is well-reasoned and well-written...If you're a parent who is serious about your child's education and course content, buy this book and use the Survival Skills as your guide.*"

***Harvard Crimson*:** "*Wagner's book raises many important questions about both the state and purpose of secondary education in America.*"

***Education Review*:** "*Through Wagner's story-telling style, using cases and examples, we were impressed by his profound insight and his patience in sharing what he has realized.*"

Anne L. Bryant, Executive Director, National School Boards Association: "Every school board member, administrator, teacher and parent in the nation should read this book."

U.S. Senator Daniel K. Inouye: "*The Global Achievement Gap* is a 'must' read for all policymakers."

Linda Darling-Hammond, Charles E. Ducommun Professor of Education, Stanford University: “Tony Wagner takes us deep inside the black box of school curriculum in a way few authors have done. What do we mean by rigor? By 21st century skills? Wagner shows us concretely what thinking skills really are, how current approaches to ‘raising standards’ cannot get us there, and what will. Everyone concerned with American education should read this book.”

Mel Levine, author of *A Mind at a Time*: “Tony Wagner has managed to penetrate the jargon and over-simplified responses to the pervasive underachievement that exists among our students. He has charted an important new direction and given us a way to get there. This book deserves to be powerfully influential.”

Rosabeth Moss Kanter, Harvard Business School Professor and author of *America the Principled and Confident*: “Tony Wagner argues persuasively that old ways of teaching are completely unsuited to new ways of working. *The Global Achievement Gap* should be grabbed by business leaders to guide a much-needed conversation with educators.”

Clayton Christensen, Professor, Harvard Business School, and author of *Disrupting Class*: “Parents, teachers, administrators and policy makers urgently need to understand what Wagner is telling us.”

Dr. Richard C. Atkinson, President Emeritus, University of California: “Wagner builds a persuasive case for change in the way we approach schooling, grounded in the question: what does it mean to be an educated person in the 21st century?”

Larry Stupski, Chairman, Stupski Foundation: “Tony Wagner makes a strong case for rethinking our entire approach to education, and his argument is persuasive.”

Charles Fadel, Global Lead for Education, Cisco: “This insightful book calls for a much needed dialogue between educators, business leaders and policy makers on the future of American education. By using many real-life examples, the book is a very readable starting point for that discussion.”

John Abele, Founding Chairman, Boston Scientific, Board Chair, FIRST: “Kudos to Tony Wagner.”

Dr. Arthur E. Levine, President, The Woodrow Wilson National Fellowship Foundation: “*The Global Achievement Gap* offers a simple, readable, intelligent and compelling analysis of the needs of our schools and the ways to address them.”

Deborah Meier, author of *The Power of Their Ideas*: “It’s always an occasion for delight when Tony Wagner writes a new book. He’s done it again by provoking us to think about the reasons behind the current furor over school achievement.”

Keith R. McFarland, Author of #1 *Wall Street Journal* and *New York Times* Bestseller, *The Breakthrough Company*: “Tony Wagner is not just talking about our schools here—he is talking about the future our nation. *The Global Achievement Gap* cuts through the complexity and partisan posing so often associated with this genre. It is a powerful call to action, and a roadmap of how to fundamentally rethink the education of our children. If we ignore it, we do so at great peril.”

Keith Sawyer, author of *Group Genius*: “This important book is a wake-up call for America. Wagner shows that even the best schools are failing to teach the necessary skills for the 21st century. Students memorize academic content, and get high scores on standardized tests, but they never learn how to think, solve problems, or be creative. The stories about the few remarkable schools that are transforming classroom instruction and pointing the way to the future are compelling. Every parent, teacher, politician, and executive should read this book.”



**Olin College
of Engineering**

Office of the President

Olin Way, Needham, MA 02492-1200 // www.olin.edu

TEL 781.292.2301

TO: Brock Prize Jurors

FROM: Richard K. Miller, President and Professor
Olin College of Engineering

DATE: August 31, 2015

RE: Nomination of Dr. Tony Wagner for the 2016 Brock Prize

I have known Dr. Wagner for at least the past five years through his publications, public and video presentations, and his personal crusade to change the mindset of the nation on the nature of education in the 21st century. His several recent books that examine the most successful educational models in the world form the basis of a set of observations and insights that have generated a growing movement in K-12 education. His thinking about the importance of educating innovators today played a critical role in our development of the new learning model at Olin College. In particular, his book *Creating Innovators* identifies a pattern of “play, passion, and purpose” that have proven a valid and useful framing of the stages of development of innovators at Olin College.

His latest work with Ted Dintersmith on *Most Likely to Succeed* is focused on the principles of “what works” rather than what is broken in K-12 education. The deep dive inside High Tech High School in San Diego reveals a completely new way of thinking about education and curriculum, one that focuses on developing mastery rather than isolated facts and knowledge taken out of context. It points out the risks as well as the potential benefits of this new approach.

Tony is a hugely influential K-12 researcher and former teacher and administrator whose inspirational public presentations have influenced many educators around the world to rethink their learning model and consider education in a new light. Few people today have done more to deliberately influence public understanding of education and to motivate experimentation and change in education than Tony. He has dedicated his life to this cause and is very persuasive and effective in bringing the research and the public policy issues into focus. He is a tireless advocate for improving the creativity and innovation in young lives and in restoring effectiveness in education worldwide.

I strongly and enthusiastically support Tony’s nomination for this distinguished prize. His selection would continue to build the prestige and credibility of the prize and bring public attention to the need for fundamental change in our schools.

September 1, 2015



Dear Jurors for the Brock International Prize in Education,


My name is Ken Kay and I am the CEO of EdLeader21, a professional learning community of education leaders committed to 21st century education. I was the founding President of the Partnership for 21st Century Skills. I am writing in support of the nomination of Tony Wagner for the Brock International Prize in Education. I strongly support Tony's nomination and believe he, his writings and his advocacy have had a profound impact on the direction of education globally.

Several of us informally started the "21st Century Skills" movement in 2001, and formally launched the Partnership for 21st Century Skills (P21) in 2002. However, those initial efforts didn't create adequate momentum until two books were published: Thomas Friedman's "The World is Flat" and Tony Wagner's "The Global Achievement Gap". Friedman's book popularized the concept of "the new global economy," but it was Wagner's book that tied those trends to the importance of innovation in education.

Equally important, Wagner's work was constructed in such a way that it helped create a bridge between the business and education communities so they could discuss these global trends with one another in the context of education. I am aware of dozens of communities where "The Global Achievement Gap" was the focus of business/education dialogues and others where the book was required reading for school board members. These dialogues led to profound changes in the education model. These communities began to adopt a profile of "21st Century Competencies" that paralleled Wagner's "7 Survival Skills." Upon review of the attached models, you can see what a profound impact Tony Wagner has had on the education dialogue in the United States. He has created an environment where education leaders now know they must redefine the goals for 21st century education and align them with our innovation economy.

Even more impressive than the dialogue in the United States, has been the adoption of 21st century models around the globe. As a result of Wagner's work, global education leaders began to realize that they needed to shift their education model from content-mastery to one more focused on innovation and creativity. Having just returned from an educational leadership trip to Finland, one could see the "survival skills" firmly embedded in the future strategic planning for education in Finland. We are leading a similar delegation to Singapore next summer and the "survival skills" are now widely being adopted in education in Singapore.





Prior to Tony's work, adoption of these innovative models were lagging in the U.S. Since Tony's books were published, many schools and districts have adopted this model. In our own case, we have formed a professional learning community of leaders committed to integrating the "survival skills" into K-12 education. As of today, we have a network that includes 140 public school districts and 20 independent schools collaborating on how to implement the survival skills. This group would not be functioning but for the seminal work and relentless advocacy of Tony Wagner.

In summary, I strongly believe that Tony Wagner and his body of work are most worthy of the Brock International Prize. However, I want to offer one additional rationale. The moment to innovate education globally is at a critical inflection point. The work of Tony Wagner has helped to create this movement, but we need more visibility and more momentum behind this work so that every child has an education that will allow them to thrive in the 21st century. Tony Wagner's receipt of the Brock International Prize would help those of us working so hard toward this goal. Thank you so much for your consideration.

Sincerely,



Ken Kay, CEO, EdLeader21
Founding President, Partnership for 21st Century Skills
Co-author, *The Leader's Guide to 21st Century Education: 7 Steps for Schools and Districts*

Attachments: Ken Kay Biography
District Vision Profiles



THE WOODROW WILSON
National Fellowship Foundation

September, 2015

To: Jurors for the Brock Prize

Dear Jurors for the Brock Prize,

When I read the description of the Brock Prize, the name that came immediately to mind was Tony Wagner. I say this as a person who is not a friend of Tony's or a colleague with a history of collaboration with Tony. I am an admirer of his work, who believes it is perhaps the most important body of work in education today.

The United States and many other nations are making a transition from national, analog, industrial economy to a global, digital, information economy. Our education system was built for the former and no longer works as well as it once did. It appears to be broken, no longer serving the needs of our society. Education needs to be reinvented.

In a series of three volumes on innovation, each of which would have been sufficient to establish a career, Wagner identified the characteristics of the emerging society; the "21st century" skills and knowledge (the capacity to innovate) people need to live successfully in that society; what schools must do to prepare these people; and the fundamental mismatch between what our schools are currently doing and what they need to do. Wagner explains how schools and other organizations need to change, what and how they need to teach and he identifies institutions and people that are exemplars of those changes.

Wagner is not merely an author who writes important books. His books are also very widely read and they are very widely discussed as well by practitioners and policy makers around the world. They change minds among mainstream educators like me. When the history of education is written in the decades ahead, Wagner may be considered an author of the 21st century schools. This is not a comment I make lightly. I think he is a superb candidate for the Brock Award.

Sincerely,

Arthur Levine, President
President Emeritus, Teachers College, Columbia University

September 7, 2015

Dear Jurors,

My name is Robert Compton and for a decade I have produced documentary films about global education. I am writing in support of the nomination of Tony Wagner for the Brock International Prize in Education. Dr. Wagner's work with the government of Finland on their 10-year education strategy was the impetus for my documentary film *The Finland Phenomenon: Inside the world's most surprising school system*.

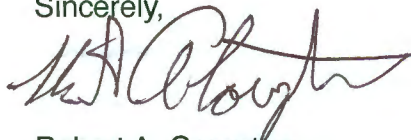
In 2010, Finland's Minister of Education invited Tony to travel to Helsinki to consult on that country's strategic plans for their national education system. The fact that one of the world's top school systems was asking an American researcher and author to evaluate their strategic plan, sounded like an important story well worth telling.



The film offers Dr. Wagner's analysis of Finnish schools and what makes them both excellent and unique. The insights Tony conveys in the film have proven of great interest to a wide audience, having been purchased by educators, colleges of education and high schools across the country. Internationally, the DVD has been purchased by several hundred educators as well as governments in more than a dozen countries, including Australia, New Zealand, Singapore, India, China, Japan, South Africa, Israel and most of Western Europe.

Dr. Wagner's pioneering research, publications and film have had a meaningful effect on how educators and governments around the globe are preparing their schools to meet the needs of future generations of students. For this reason I endorse Dr. Wagner as a nominee for the Brock International Prize in Education.

Sincerely,

A handwritten signature in black ink, appearing to read "Robert A. Compton". The signature is stylized and cursive.

Robert A. Compton
CEO and Executive Producer
Broken Pencil Productions

Date: September 14, 2015

To: Brock Prize Jurors

From: Annmarie Neal, Psy.D.
Founder, Center for Leadership Innovation, and
Former CTO, Cisco Systems

Regarding: Tony Wagner – Nomination for Brock Prize

It is an honor and pleasure to write this letter of recommendation on behalf of Dr. Tony Wagner. He is by far one of the more innovative and progressive thinkers on not only education reform, but also education transformation.

First, let me give you a bit of information about me so that you can appreciate the context from which I present my recommendation. Over my career, I have served in the capacity of the Chief Talent Officer of three organizations, Cisco Systems (high technology); First Data Corporation (Fin Tech) and Hellman and Friedman (Private Equity). I am considered a strategist, a thought leader, a speaker and an author in the space of progressive organizations, leadership and talent management. I am clinical psychologist by training and mother of a middle-school aged boy. Tony interviewed me during his *Global Achievement Gap* project. Immediately, we connected on several levels. We've since collaborated on several projects, including his *Creating Innovators* project and the publication of my book, *Leading from the Edge*. (ATD, 2013).

In my opinion, our education system is past its sell-by date. A system designed in the late 1800's to standardize factory work, it very successfully produced productive workers for an industrial age economy. Our country has prospered greatly as a result. However, we are no longer in need of compliance-oriented, factory labor. We are in need of independent, idea-generating, innovative workers – who thrive in ambiguous, agile and complex global environments. Organizations not only need production of things ... but they need producers of innovation in product, in solutions and in markets. And organizations need our education system to produce a labor pool to meet these needs.

Tony's contribution to the field has been tremendous. Bravely, he's provoked the sleeping giant. He's challenged long-standing assumptions about how our education system works, and more importantly how we measure its success. He challenges if and how and why we test. And most importantly he challenges the efficacy of the system.

His most recent work on creating innovators is timely, relevant and frankly essential. For our economy to thrive in the information economy, we need a labor pool that understands how and is able to innovate.

The ability to innovate (create, capture and deliver value) is a skill that can be developed. I know this because we developed this skill across 1,000 leaders at Cisco Systems. There are processes and methodologies that can bring ideas forward. But to do so, we need to develop the capacity and capability for this very different type of thinking, processing, exploring and experimenting, evaluating and self-correcting behavior early in and throughout our education process.

We must challenge our system of education. And Tony's work does just this. His theories and models for purpose, passion and play – while simple – challenge the core tenets of how and why we education in America. Tony is a remarkable thought leader, provocateur and change agent in this regard. He passionately had dedicated his life's work to enlightening educators toward the future needs of education. His work influences policy makers, boards of trustees, and public systems to change how we model and measure success. His writing provokes business leaders to re-think how they develop leaders for the future of work. And his words inspire parents to raise children with more freedom to explore.

I am a huge advocate of Tony and his work. His philosophy permeates every executive education program that I lead, oversee, design and/or develop. His impact expands well beyond K-12! He is quite deserving of this incredible honor.