The global forces changing the lives of everyone around the world are creating living and working conditions that are dramatically different from those in the past century. Manuel Castells, in his three-volume work on Globalization (1996/2000, 1997, 2000) describes in great detail how the world has become a global network society. The terrorist attack of 9/11 in New York City confirmed for everyone that a global society has not only arrived, but has many faces. While people in many nations have been confronted for decades with the terrorist movement and its effects, those on the North American continent now understand the power of networks. Not only are the terrorists pushing the frontiers of networking through multimedia and the Internet, but so also are the major industrial giants of the world today. Networking in its many forms has become a way of life, to share knowledge, resources, information, and wealth, which requires new capacities for the global world of work, which includes both educators and their students. The question is: What are schools and educational systems around the world doing to prepare youth for working in a network society?

As we learn to live with the complexities and incongruities of global expansion and global terrorism, many forces exert an influence. Information Technology has given us virtual living, where information is democratized and where English has become the dominant language. This force, more than any other, is shaping our ability to connect and build networked communities of all kinds. Global Economics has enabled markets to become the masters of States through networks of resources and/or also through criminal networks of exchange. Efforts to provide free trade zones and to facilitate exchange are making it easier to live together, globally. Power and Politics are no longer in the hands of nations and their institutions alone, but rather are actions in the networks of wealth, information and images. Power has shifted from bureaucrats to entrepreneurs, and national dominance is often being replaced by regional and global pressure groups. As a result people at all levels of society can reach out across the world to learn about and influence the future.

While many local cultures have improved their standard of living, life for others around the globe has worsened. There is a growing distance between the rich and poor nations, which creates a significant responsibility for us all. Also, human migrations within and across continents are reshaping local cultures and traditions as people search for new opportunities and better living conditions. Environmental challenges are expanding in kind and degree, with no visible resolutions in sight, and these challenges affect the global community. Human catastrophes due to earthquakes, floods, tsunamis, and regrettable personal health conditions bind us to each other as never before. Backlash races on against the rich nations of the world and their financial monopoly over flows of information and opportunity. The integration of
these forces is transforming local living, and with it come opportunities to participate in shaping the global community.

The drama of it all challenges educational leaders and schools as never before. “How do we prepare young people for this new world of uncertainty, which combines both hope and opportunity with fear and skepticism?” “What is schooling now?” “What capacities have become more important to develop in students?” “How might students be connected in learning projects with students of other nations and cultures to expand understanding and peace?” “How can technology be integrated into the culture of learning to enable students to invent new futures together?” No longer is there any question that students need to have many connections within the changing world of work and living around the world. The urgency for schools to respond to changing life conditions is upon us!

The question addressed in this paper is: What can we do to build a strong network of educational leaders that is global in scope in order to reconfigure schooling for a new era of human living? For the past ten years, the International School Connection, Inc., a not-for-profit international network, has been creating professional development opportunities worldwide for educators. Initially designed as a multi-university/multi-national project, the international organization has developed into a global network crossing four continents to provide educators with an international forum to engage in global dialogue, professional development, and research. Through our international research and development we have found that school leaders who participate in an international network of educators find ways to develop student projects that connect with global forces and opportunity. Moreover, the growing ability to connect students with global challenges and people in other parts of the world, because of advances in communication technologies, is igniting interest in exploring the options for the first time in history in a world wide education community. We have witnessed that this process is expansive, typically starting with a single person to person connection, and advancing to whole school, and in some cases school district partnerships. To begin, most schools reach out to one school and form a partnership that relates to student learning. In time, it becomes evident that to facilitate sustainable international projects and partnerships, teachers and school leaders want their own international professional networks, and personal international learning experiences emerge over time. Networks form and stimulate the momentum and energy for local school development activity. In the process, existing control systems yield to more open-ended and unpredictable opportunities for students to learn about a transforming world.

As the value for international partnerships has grown and shown promise for school and professional development, new questions are emerging about the ways in which international networks might facilitate curriculum and infrastructure changes at the local level that are responsive to global conditions. More specifically, what can schools do to align their systems of learning with the skills that youth today need to live and work?

During the past three years, the Leadership Team of the International School Connection, Inc. developed a set of resources to facilitate global school development, one of which is a Global
Benchmark System. The scientific development of the global benchmarks focuses on the alignment between a school’s curriculum and infrastructure and the skills needed for youth to work and live in the global age. The benchmarks were developed with an international team, reflecting cross-cultural expertise, as well as perspectives. This paper addresses the development of the benchmarks and provides examples for how they are observed in schools around the world.

Framing the Global Benchmarks: Understanding The New Global Work Environment

Thomas Friedman’s books over the last 15 years have featured tale after tale about the transformation of life everywhere because of the large-scale transformation of technological activity and manufacturing, with clues about emerging global networks and work systems. He says that the world is flat because humans are connecting all knowledge centers on the planet into a single global network, either for human prosperity, innovation and growth on the one hand, or for terrorism, control, and decline on the other. India, China and Brazil, he notes, are replacing the USA and Europe as major players in the global marketplace. The rapid rise of global work flows and communications has led to the use of technology and global communication systems 24/7, which Friedman observes as: open-sourcing, out-sourcing, off-shoring, supply chaining, in-searching, in-forming, and virtual living. Most of these terms did not exist a short time ago, and they now function as a primary lexicon for work, production and exchange. Some of these new words have become degree programs in universities.

The new systems of invention and production have altered forever the nature of work, communication and collaboration, for activity in most fields now involves the integration of major cultural differences, languages, time zones, and the creation of new work cultures. To this new list of work systems, in which the youth of today will surely participate, we can add other practices, such as: complex problem solving and invention, international development teams, working across borders with people from very different cultures and traditions, tolerance for differences and ethical values, imagining new futures, addressing major world problems, working with all parts of the world community, facing the realities of terrorism in our midst, and caring about the future of the human race.

This brave new world is not just for workers and bureaucrats in businesses and agencies, for now anyone can participate. The Internet has opened pathways for global engagement to promote collaboration, efficiency and competition, and which have exploded exponentially, even for terrorist organizations. Science and engineering have become the basic tools for technology and its development, and we witness daily (and watch in wonder) as young people grab new technologies for connecting across the globe, 24 hours a day. Scientists tell us that complexity breeds complexity, and so the relatively quiet days of living and learning of the 20th century are now a thing of the past. Our challenge is to find ways to connect with the explosion of information and gain access to opportunities for growth and participation for students, and for the professionals who guide their learning. Since India is taking on the technology revolution and its utility for service to the world, and as China, Brazil and Russia are commanding attention for meeting the world’s manufacturing needs, the “West” is
redefining its contribution to a global activity through new kinds of services. This creates a moment of great opportunity for schools to create a new and much, much more dynamic learning environment for learners of all ages.

The foundation for living in this changing environment is the building of personal and organizational networks of people and resources. So, let’s get professionals and students involved with each other across regions, languages, and cultures to work on major world challenges! Life skills today require that students tolerate differences, not merely for those foreigners who arrive in local communities, but for those who live in very different cultures around the world. The real future will belong to those who can imagine and bring about new possibilities for living; memorizing what worked in the past is of little use anymore. We must all learn to work not only with the “West” as it was defined in the last century, but with the new wonder nations of India, China, Brazil, South Korea, and Russia. Caring about the future of the human race is fast becoming a necessity, for the global drama has eliminated major groups from the global avenues, for whom there is little chance of participation unless the wealthy and developing nations reach out and find ways to involve them in creating the future. The well-being of all peoples will affect all nations, as indeed will the continuation of poverty.

Impact on Education Environments

How can we ready our schools for the dramatic changes that are yet to emerge? With capacities to invent the future, work across time zones and cultures, and toleration for differences, our students will be prepared for emerging careers and the workplace of tomorrow. Let’s face it: youth of today, at all ages, will be exploring all the new technologies to connect with people everywhere on the planet and to learn about the new environment for living. What are we doing for them in school? Givens in school programs must include information technology, global markets, multi-national corporations, social networks, nanotechnology and biotechnology, entrepreneurship in every field, and cross-cultural work teams. The new global attraction with STEAM Learning engages students in interdisciplinary learning about areas of interest that include knowledge from science, technology, economics, art-of-design, and measurement. Students not only are learning about complex systems in our world today, the are becoming entrepreneurs in creating new uses existing knowledge. STEAM activities are preparing students to become the inventors of the future for all of us, which is light years ahead of the text book learning and testing approach to schooling in the recent past (STEAM Student Symposium at Corbett Prep in Tampa Florida, March 6, 2018.

More than a decade ago, Bjorn Lomborg edited a book that contained the work of major world leaders and Nobel Prize Winners: Global Crises, Global Solutions (2004). Listed below are the major world challenges that hold the greatest promise for the world community, and which emerged from the work of this esteemed global group of experts:

- Climate Change
- Communicable Diseases
- Conflicts and Proliferation
What might happen to performance patterns if greater numbers of students were to tackle major world problems? What might happen to student motivation if they could work on these challenges with students from other countries, cultures, languages, and time zones? And what might happen to the human race if students world-wide could connect with each other to learn about their cultures and come to value friends who are different, and who have a wide range of perspectives on life?

And...what if, in the process of connecting students across the world to learn with and from each other, student performance on national and international measures would be favorably influenced? Educational outcomes have been studied on a global scale in recent years, and the findings provide cross-border and cross-region comparisons. How well are national education systems serving students, and how might educators learn with and from each other across borders to boost the quality of education world-wide as well as locally? The Organization for Economic, Cooperation and Development (OECD) in Paris developed the PISA Test (Programme for International Student Assessment), working with national governments in the developed world to assess the performance of 15 year olds on an international measure (2001 - 2018). This test represents a commitment by governments to monitor the outcomes of their education systems in terms of student achievement and social equity on a regular basis and within an internationally accepted common framework. The prosperity of countries now derives largely from human capital. To succeed in a rapidly changing world, nations need to prepare citizens as knowledge workers, over a lifetime, to live with the challenges of continuously changing conditions.

The 2003 administration of the PISA test in 2003 involved 275,000 15-year olds in 41 countries, which covers roughly nine tenths of the world economy. The performance of students is analyzed by nation from various perspectives. The biggest factor in Between-School-Variation was “A Learning Orientation in Schools.” In Finland, the number one nation on the PISA, from both the 2000 and the 2003 test administrations, life in schools reflects a learning orientation, and is described in the following ways:

- Teaching includes interdependent work systems, cooperation within the community and experts in their subjects.
- School Leaders organize educators in teams to work with students, building environments of trust, expect total staff participation in decision making, and train others for leadership roles.
The School is viewed as an organization of experts who create positive atmospheres, where there is interdependency of programs and services, appreciation and respect, honesty, a web of networks of experts, support for learning and growth of all students by all levels of the education enterprise, with a democratic preparation for life, and parental involvement.

These patterns are now being studied by nations around the world, for Finland recently has been flooded since the early PISA tests with visitors from every corner of the world to learn about its education practices. Of significance here is that every school in Helsinki has from one to many partnerships with schools in other countries. The picture that emerges is of the Finnish community of educators doing whatever it takes to prepare their students for success in a changing global environment, and also linking students with educators, business experts, and other students to enrich their learning experiences. An important question for us to consider is whether there might be a correlation between student engagement with students and experts from other countries and the continuous high performance of Finnish 15 year olds on the PISA? While this concept was not examined by PISA, the relationship between learning programs and international connections for students is strong enough to raise the question.

Benchmarks for Schools as Global Learning Centers

If the task of schools for society is to prepare youth to participate in the life of a developing community, schooling traditions must center on building student success for adult roles. By 2004, in our cross-region work with school leaders, ISC leaders recognized many new school-work patterns, which were different from the compliance orientation of the 20th century. Students were developing friendships across borders as they learned in local, global, and other venues. Our dialogue about these new patterns led to ideas with promise for schooling in a global age of living. We found eight characteristics to exist in those schools with a global orientation:

- Real-life challenges are a force for local and global development.
- Common goals and different tasks drive action.
- Individual learning goals connect to community/classroom goals, which are supported and assessed periodically.
- Interdependent learning teams evolve and change naturally.
- Information and technology create rich learning environments.
- Multiple global resources and partnership projects stimulate student interest and progress.
- Creative and critical thinking becomes a way of life.
- Self-assessment using world-class standards replaces traditional achievement test data as a central value.

If these patterns provide pathways to a more responsive learning experience in schools in preparing youth for new adult roles, then how might the ISC foster school development in this direction? For many months Hub members and ISC leaders exchanged ideas and perspectives about possible Global Benchmarks that we could all support. After a period of dialogue and
clarifying about future characteristics of successful schools, ten dimensions emerged, which were then validated.

A formal content validation (Borg and Gall, 1989; Crocker and Algina, 1986) was conducted to determine the importance and clarity of the items. It was determined that content validation was most appropriate as the GLC benchmark system is used as a guide for school development in the global age, rather than as a measurement tool. The ten Benchmarks were changed into a research tool to enquire about the clarity, relevance and importance of each Benchmark (Sullivan, 2006).

An expert panel of educators from eight countries participated in the research project (N=250): Canada, China, Finland, Russia, Spain, Sweden, Taiwan, and the USA. Experts were drawn from the ISC network of educators representing university researchers, school principals, superintendents and educational consultants. All respondents had expertise in both educational development and contemporary global conditions. Panel members were ask to rate each benchmark and corresponding indicator for clarity, relevance and importance, using a Likert scale. Using an open-ended question format, experts were also invited to provide suggestions for improvement. Findings from the ratings were analyzed to determine necessary linguistic changes, as well as appropriateness for inclusion. Responses from the open-ended questions were analyzed for themes and patterns and resulted in changes to the benchmarks and indicators. One benchmark was changed significantly in relation to both content and meaning, while minor changes were made to the remainder.

What follows are the ten Global Learning Center Benchmarks that are the foundations for school development in the ISC, ideas that will continue to evolve:

Part A. The Global Learning Environment for Students

• The curriculum provides opportunities to learn about local and global forces that influence change.
• The School as a growing system has a vision and a plan to provide opportunities to connect with the Global Community and its dynamic forces.
• Educators participate in professional development activity in a global networked environment to promote learning and exchange.
• Partnerships with local, regional, and/or businesses enhance the direction of school development.
• The School has achieved high student performance results using either local, regional, and/or international measures.

Part B. Preparation for Success in a Global Environment

• Current knowledge about human learning guides learning practices through school life.
• International projects are included in local curriculum to promote global learning opportunities for all students.
• Students are developing capacities for success in the evolving global workforce, which includes emerging technologies.
• Students in Global Learning Centers learn and use democratic decision-making processes, peace-building strategies, and practices for ethno-cultural equity as guides and foundations for becoming global citizens.
• Students demonstrate an orientation for caring about the global community and its sustainable development.

The ISC intends to push the frontiers of schooling toward the best that is known, learning from the global forces and the ethical and visionary strengths of its community. We envision schools of today becoming global learning centers (GLC) to prepare their students with the technology and work systems that have evolved in the 21st century. As a growing world community, our sense of what is possible and desirable for schools grows out of our observations and communications over time across borders and regions. At this point, we have a sense of these aspirations/benchmarks; they are the big ideas for us to pursue.

Examples of Global Learning Center Benchmarks

To illustrate each Benchmark, we share examples from the real life experiences of two elementary schools in Finland, an Environment High School and a Gymnasium in Sweden, two schools in China (k-12; High School), and one elementary/middle school in the USA, and one secondary school in Canada. Consider now the sample of projects we have observed for each Benchmark that reflects new schooling patterns found in schools from Sweden, Finland, China, the USA, and Canada. Details on provided on the next several pages.

Benchmark 1: The Curriculum provides opportunities to learn about local and global forces that influence change.

• The Futures Project in Europe permeates many school programs for all age groups, and is designed to develop an awareness of emerging global trends (Finland).
• Our Science project content reflects the latest known about astronomy, within the context of on-line courses that are taught world wide (Finland).
• The school has adopted Environmental Education and the Futures Project for all students (Sweden).
• Six nature programs are linked with local industries and also with schools in other countries (Sweden).
• Students have received teachers and leaders in the school from many schools in Spain, the USA, and China (USA).
Benchmark 2: The School has a vision and plan to connect students with the Global Community and its dynamic forces.

- The National Science Teachers Association involves students in astronomy classes, where they share data across borders. They learn also about different ways the Astronomy-with-a-stick Project is being used in classrooms, using stories and myths that students create (Finland).
- Students are assessed by local industry in their programs, while also taking courses from schools in other countries (Sweden).
- The school is planning now to become an ISC Global Learning Center Benchmarked School (USA).
- A United Nations approach to school learning engages students in debates around major world challenges (China).

Benchmark 3: Educators participate in professional development activity in a global networked environment.

- Teachers study the Futures Project Literature about emerging global trends, and organize seminars with other teachers to share and explore these trends (Finland).
- The principal and teachers host visits of educators from other countries (Finland).
- The principals are members of the International School Connection, and have hosted many international groups of educational leaders in their schools, along with seminars they organize with leaders in the School District and the National Education Agency (Finland).
- Two teachers are visiting a partner school in Luxemburg for one month. Six teachers from Luxemburg will then spend a month in our school and community (Finland).
- The principal is participating in a job-shadowing program with a school in Glasgow, which is sponsored by the British Council (Finland).
- The principal is involved on an international planning team for the Comenius Project in Europe (Sweden).
- Next year our teachers will exchange with teachers from Iceland (Finland). Through active engagement with colleagues from other countries and with local industrial leaders, the role of teacher has been changed forever. Teachers are active facilitators of student capacity-building for specific careers (Sweden).
The school has hosted seminars, global conferences, and workshops for educators from Spain, China, the ISC Global Community, and from the local urban area and region (USA).

**Benchmark 4: Partnerships with local-global businesses enhance the direction of school development.**

- Students are responsible for developing employability capacities in their selected field. They work in the context of learning communities that develop goals and assign student responsibilities. They participate in the real work of their chosen industry (Sweden).
- Business leaders work with teachers to shape student learning in each program area, and then assess the quality of student work each year (Sweden).
- High School students are exploring ways to generate political and financial support for hosting the ISC First Youth Leadership Global Summit (China).

**Benchmark 5: The School has achieved high student performance results.**

- The School has received an award as a Blue Ribbon School from the US Department of Education for its high levels of student performance (USA).
- Two schools in Helsinki are located in the number one country in the world for its education, according to results from the PISA examination (Finland).

**Benchmark 6. Current knowledge about human learning guides learning activity.**

- The principal conducts weekly workshops about human learning, which is based on the school's M.O.R.E. Approach to a brain-friendly learning environment. The professional development of teachers is continuous throughout the school year (USA).
- Teachers attend many conferences and workshops outside their school to add to their knowledge about human learning (USA).
- Students throughout the school understand the reasons why they experience certain learning activities, and can explain to visitors those reasons, from a human learning perspective (USA).
- Teachers belong to networks of educators in their specialization, which influences the learning environment in school (Finland).
Benchmark 7: *International projects are included in local curriculum to promote global learning opportunities for all students.*

- The science project and the Futures project involve most students in the school. This includes exchanges with students from Estonia, Sochi Russia, Bolton England, and Katrineholm Sweden (Finland).
- Environment projects promote student interaction from schools in other countries in Europe (Finland).
- Our School Program Connections include the following (Sweden): Gardening (Finland, Hungary)
  Forestry (Norway, Hungary, Belgium)
  Fish Breeding (Norway)
  Agriculture (Estonia, Scotland, Australia)
  Culture (Estonia, Russia)
  Water Management (Hungary)
  Horsery (Hungary)
  Hunting and Wildlife Care (Hungary, Scotland)
  Landscaping (The Netherlands)
  Fishing (Scotland)
- Students go to Kenya and take courses for credit in the school in Sweden as it relates to studying about and working with local people to build communities in Kenya (Sweden).
- Students create new friendships with children and educators around the world to improve our country's image (China).

Benchmark 8: *Students are developing capacities for success in the evolving global workforce, which includes emerging technologies.*

- Students are actively engaged in learning projects with students from many other countries, using the internet, DVDs, CDs, and videos (China).
- Through active selection, planning, working and assessment, students are involved in preparing for a specific career in nature and environmental care (Sweden).
Students make presentations at adult conferences from their research on real world problems (Sweden).

Students in our school learn to use authentic English (China).

Students participate in projects with students in Israel, Japan, Spain, Belgium, the UK, and Argentina (China).

Our students have pen-pals with students in four cities in Texas (China).

Students in Shaoguan participate in a Belgian project called Virtual Zoo, involving students around the world (China).

Benchmark 9: Students learn about and use democratic decision-making processes, peace building strategies, and practices for ethno-cultural equity.

Every student, every day, helps to shape the work of their team on its work tasks. Student representatives from each program area form the school’s governance council, where policies are established and managed (Sweden).

A delegation from Rhode Island dedicated a UN peace pole on our school campus (China).

High School students are preparing to host the first ISC Global Youth Leadership Summit, developing major features of the program and working with the international ISC Youth Leadership Design Team (China).

Benchmark 10: Students demonstrate an orientation for caring about the global community and its sustainable environment.

Some students participate in student exchange programs in project schools. Students travel to countries in Africa where they have partnership projects to raise the level of living and learning conditions. For this they receive course credit (Sweden).

Our students help a school in Australia learn Mandarin with our letters to them and theirs to us (China).

Our students sent a letter that was hand delivered to Belgium’s King Albert II and Queen Paula. The King sent a letter back to our class (China).

Conclusions

A new age of globalization has transformed how people live, and in more recent years the challenge of preparing students who are globally competent. The Global Learning Center
Benchmarks are becoming the focus now for the ISC and school development, which provides a fresh lens for examining the preparation of youth for social roles today. The emphasis is on exploring opportunities to participate in the global community, with the Benchmarks providing an orientation for the journey. Compliance is a feature of a 20th century orientation to school development, for educators are joining the global community to fashion new responses to life that is transforming us all. In the process educators and young people are developing their organizational and personal networks to generate the energy and direction for school projects and other learning opportunities.

Beginning at the ISC Global Summit in Tampa Florida USA, in November 2006, a group of middle school, high school, and college students will gather from ISC Hubs around the world to become the official Global Youth Leadership Design Team. Their purpose is to prepare for ISC Global Youth Leadership Summits, which will begin in China in 2007. The ten Global Learning Center Benchmarks will provide the umbrella for this new ISC Youth initiative. The Youth of today will find the future as they learn together across borders and in the process work with educators to co-create the future story of schooling. ISC Youth Summits were held in Tampa USA (2006), Beijing (2007), and Nykopings Sweden (2011).

References


