Introduction

During the last century, basic formal education has become a normative ideal the world over. Across Africa, the Americas, Asia, Europe, and Oceania, more children are now attending school than ever before. According to a 2007 report of the American Academy of Arts and Sciences, ‘Access to education increased enormously in the past century, and higher proportions of people are completing primary, secondary, or tertiary education than ever before’ (Cohen, Bloom, and Martin, 2007). In what are otherwise vastly different countries, schools tend to share a number of basic features. They are designed to prepare children and youth to become engaged citizens, ethical human beings, and productive workers who will contribute to the societies in which they live.

But for the most part, schools today are out of sync with the realities of a global world. Psychologist Howard Gardner (2004) writes that there is new tension between the glacial pace of institutional change in schools and the forces of globalization. Because of globalization – the ongoing process of intensifying economic, social, and cultural exchanges across the planet – young people the world over need better ethical grounding, more innovative thinking and cultural awareness, higher-order cognitive skills, and more sophisticated communication and collaboration skills than ever before.

Education faces new challenges in a world more globally connected yet ever more unequal, divided, and asymmetrical. For many youth growing up in the developing world, crippling poverty continues to define everyday life.
It is estimated that every 3.6 seconds, a person dies of starvation: that person usually is a child under the age of five. The infant and under-five mortality rate in low-income countries is over fourteen times greater than in high-income countries. (See Figure 1; see also www.worldbank.org/depweb/english/beyond/global/glossary.html).

![Infant & Under-5 Mortality Rate (per 1000 live births) by High, Middle & Low Income Countries](image)

Figure 1.

About 600 million children in the developing world live on less than one U.S. dollar a day (UNESCO, 2006). A recent World Bank study suggests that a large proportion of children growing up in India may be cognitively impaired – largely because of malnutrition – before they ever reach school (see Pritchet & Pande, 2006). Global poverty deprives one billion children of the basic resources for life: clean water, proper nutrition, safe shelter, and the proper supervision required for survival and positive human development (UNESCO, 2006). As a consequence, life expectancy at birth in low-income countries is on average more than twenty years less than in high-income countries (see Figure 2, next page). Individual country comparisons reveal even more striking inequalities: The average life expectancy at birth in Malawi is 38.8 years versus 78.9 years in Canada. In other words, the
average Canadian born in 2000 is expected to live forty years longer than the average Malawian born in the same year.

Basic primary and secondary education remains an elusive luxury for millions and millions of children (see Figure 3, next page; see also Cohen & Bloom, 2006); illiteracy remains a worldwide epidemic (see Figure 4, next page). Yet everywhere today, more is asked of education. It is the Camino Real for development and a powerful engine of wellness. The data presented by Robert LeVine (2007) suggest that education – almost any form of education that inculcates and supports basic literacy – generates powerful virtuous cycles. A recent UNICEF study concludes:

Education is perhaps a child’s strongest barrier against poverty, especially for girls. Educated girls are likely to marry later and have healthier children. They are more productive at home and better paid in the workplace, better able to protect themselves against HIV/AIDS and more able to participate in decision-making at all levels (UNICEF 2004, 1; see also Bloom, 2005).

The worldwide disparities in health and education mimic a massive and growing gap in income distribution worldwide (see Figure 5, page 586). And world inequalities – access to jobs and north-south wage differentials – are a forceful component of global migration.
International migration is the human face of globalization. There are now between 185 and 200 million transnational migrants, making migration a global phenomenon involving every region of the world (United Nations Global Commission on International Migration, 2005). Some regions are becoming important centers of out-migration. For example, over the last
decade, approximately 1 million Latin Americans left the subcontinent every year (United Nations Population Division, 2006). Other regions, such as Asia, are experiencing massive waves of internal migration. China is leading the way: More than 150 million people in that nation are migrants from rural to urban areas (Newsweek International, 2007).

Some countries, such as Mexico, are becoming not just major sources of out-migration but also important transit regions. Migrants from every continent on earth routinely choose Mexico as the favored route to enter the United States – mostly without legal documentation (Alba, 2002). Other regions of the world – notably the wealthier post-industrial democracies of the Northern Hemisphere, but also countries as far-flung as Australia and Argentina – continue to attract millions of immigrants annually (United Nations Population Division, 2006).

The United States is now in the midst of the largest wave of immigration in history – with more than 1 million new immigrants arriving each year, for a total immigrant-born population of more than 36 million people, or approximately 12.4 percent of the US population (US Census, 2007). Approximately 70 million people in the United States are now either immigrants or the second-generation children of immigrants. But this is a global phenomenon: the children of immigrants are a fast-growing sector of the child and youth population in such countries as Australia, Canada, the United States, Sweden, Germany, the Netherlands, and France (Sussmuth, 2007). These new demographic realities have immense implications for education and schooling in sending, transit, and receiving countries.

Immigration and Education in the United States

In the first decade of the new millennium a new cycle of public concern about the benefits and harms of immigration erupted publicly. In mid-2006, exactly twenty years after the last major US immigration overhaul (the United States Immigration Reform and Control Act of 1986), the quiescent public discourse regarding immigration began rumbling, eventually erupting into a full-throated national debate. Suddenly, immigration talk saturated the airwaves: popular television and radio commentators decried the ‘broken borders’ and the ‘illegal-alien invasion’, which some called the ‘Mexican reconquista’. At about the same time, by the end of May 2006, millions of people – especially undocumented immigrants and significant numbers of children of immigrants – had taken to the streets of major US cities, clamoring for the right to stay in the United States.
The harsh spotlight on border controls tended to blind the broader picture, however. To a large extent, there is a failure to consider how immigration is transforming US society: immigrant-origin children and youth are the largest growing segment of the US child population – now constituting twenty percent of our nation’s children and projected by the year 2040 to make up a third of all American children and youth.¹ Nevertheless, the United States has virtually no policy at all to smooth the transition of immigrant adults and their children to their new society. Indeed there is an urgent need to develop an ambitious, workable, and humane approach to immigration that considers the integration of youth and their access to a decent standard of living and to the public goods and that is in synch with the realities of the 21st Century.

Immigrant youth and their families arrive from multiple points of origin and add new threads of cultural, linguistic, religious, and racial difference to the American tapestry.² Some are the children of educated professional parents while others have parents who are illiterate. Some have received excellent schooling while others arrive from educational systems that are in shambles. Some are escaping political, religious, or ethnic persecution; others are motivated by the promise of better jobs and the hope for better educational opportunities. Some are documented migrants while others, estimated at 1.8 million, are unauthorized young migrants.³ Some settle in well-established communities with dense social supports that ease the transition of youth into the new educational system while others move from one migrant setting to other forcing students to often change schools. The social and educational outcomes of immigrant youth will thus vary substantially depending upon the specific constellation of resources and the settlement context.⁴


² In this article we define immigrants as the foreign born population of the United States – now estimated at approximately 36 million people. If we add the generation born in the US to immigrant parents, there are now over 55 million people in the US who are either immigrants, usually termed the first generation, and the offspring of immigrants, usually termed the second generation.


How immigrant youth fare academically has long-term implications for their future wellbeing. The global economy is largely unforgiving to those who do not achieve post-secondary education and beyond. More than ever, schooling processes and outcomes shape socio-economic mobility: in the US the average annual earnings of those without a high school diploma is $19,169 while the average college graduate earns $51,554, if he has a Bachelor’s Degree, and $78,093 if she has an advanced degree.  

Immigrants defy easy educational generalizations. Recent studies suggest that, while some are successfully navigating the American educational system, large numbers struggle academically, leaving school without acquiring the tools that will enable them to function in the highly competitive labor market and ever more complex society.  

Data from the Longitudinal Immigrant Student Adaptation (LISA) study we co-directed at Harvard (1997-2003) assessed the academic performance and engagement of recently arrived immigrant youth from Asia (born in China), the Caribbean (born in the Dominican Republic and in Haiti) and Latin America (born in Mexico and in various Central American countries) and then examined changes over time (see Figure 6, page 586). Strikingly, over time the achievement (including grade point average (GPA)) of students coming from Mexico, Central America, the Dominican Republic, and Haiti all declined in a statistically significant manner; while a similar trend emerged for the Chinese-origin students, the decline did not reach significance (see Figure 7, page 587). The GPA of immigrant boys declined significantly more than that of girls for all groups (see Figure 8, page 587). For both girls and boys, their grades in the first two years are considerably higher than their grades in the last three years. The second year both girls and boy's GPA peaked and from the third year on, both girls and boys experience steady decrease in their GPA. And girls consistently have significantly higher GPAs than boys throughout the five-year period (see Figure 9, page 587).  

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7 The children participating in the LISA study were all immigrant – that is, foreign born and had spend approximately two thirds of their lives in the country of their birth before migrating and settling in the US.
Critical factors in the Study of Immigration and Education

The factors outlined below have the strongest implications for schooling performance and social adaptation of immigrant children.

A. Educational Background

Immigrant youth arrive in American neighborhoods and schools with varied educational skills. On one end of the spectrum, we find youth from upper status urban backgrounds. They are typically highly literate and have well-developed study skills. Their more educated parents are well-equipped to guide their children in how to study, access and make meaning of data and information, and can provide resources including additional books, a home computer, internet access, and tutors. In sharp contrast are those youngsters whose parents have little or no formal educational experience. Equally disadvantaged are the children who arrive from countries with compromised educational infrastructures who have missed critical years of classroom experience and often cannot read and write in their native language. Such varied experiences and backgrounds will have profound implications for their transition to the US setting. Unsurprisingly, those arriving with lower levels of education tend to decline academically more markedly once they settle in the US.9

B. Poverty

Although some immigrant youth come from privileged backgrounds, large numbers of them must face the challenges associated with poverty. Immigrant children are more than four times as likely as native-born children to live in crowded housing conditions and three times as likely to be uninsured.10 Poverty frequently coexists with other factors that augment risks such as single-parenthood, residence in suboptimal neighborhoods, as well as schools that are segregated, overcrowded, and understaffed. Children raised in circumstances of poverty are more vulnerable to an array of

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psychological distresses including difficulties concentrating and sleeping, anxiety, and depression as well as a heightened propensity for delinquency and violence all of which have implications for educational outcomes.

C. Segregation

Where immigrant families settle shapes immigrant journey and the experiences and adaptations of children. Latin American immigrants in particular tend to settle in segregated, deeply impoverished, urban settings. In such neighborhoods with few opportunities in the formal economy, informal and underground activities tend to flourish. Immigrants of color who settle in predominantly minority neighborhoods will have virtually no direct, systematic, and intimate contact with middle-class White Americans which, in turn, affects a host of experiences including cultural and linguistic isolation from the mainstream. A pattern of triple segregation – by race, language and poverty – shapes the lives of many new immigrants especially those originating in Latin American and the Caribbean.

Segregated and poor neighborhoods are more likely to have dysfunctional schools characterized by ever-present fear of violence, distrust, low expectations, and institutional anomie. Lacking English skills, many immigrant students are often enrolled in the least demanding classes that eventually exclude them from courses needed for college preparation. Such settings undermine students’ ability to sustain motivation and academic engagement. The least engaged students are most likely to decline in their academic performance over time.\(^\text{11}\)

D. Undocumented Status

Today there are approximately 1.8 million youth living in the US without proper documentation – and an estimated 3.1 million are living in households headed by at least one undocumented immigrant.\(^\text{12}\) Research suggests that undocumented youth and their families resemble other immigrant families in basic ways. Many waited patiently for years for their visas to be approved so they could be reunited with family members

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already in the US. Frustrated by the seemingly interminable waiting lists – over five years in many cases, another way our immigration policies are out of touch – many immigrant youth finally venture forth without the required papers. LISA data suggest that undocumented students often arrive after multiple family separations and traumatic border crossings. Once settled, they may continue to experience fear and anxiety about being apprehended, being again separated from their parents, and being deported. Such psychological and emotional duress can take their toll on the academic experiences of undocumented youth. Undocumented students with dreams of graduating from high school and going on to college will find that their legal status stands in the way of their access to post-secondary education.

E. English Language Acquisition

Texas Assessment of Knowledge and Skills (TAKS), the Regents exams in New York, and the MCAS in Massachusetts have real implications for college access. Second language acquisition issues can serve to mask actual skills and knowledge. Even when immigrant students are able to enter colleges while they are still refining their language skills, they may miss subtleties in lectures and discussions. They may read more slowly than native speakers and may have difficulty expressing more complex thoughts on written assignments. This is likely to bring down their grades in turn impacting access to graduate or professional schools.

In many schools, the separation and segregation between the immigrant English language learners and their native-born peers is nearly complete. The hermetic status quo results in less exposure to the linguistic modeling their US-born peers could provide, and US students, in need of knowledge about the world beyond our borders, also miss out. Conversely, the data show that immigrant youngsters who report having even one native English-speaking friend acquire English skills more quickly and proficiently.

F. Promoting Academic Engagement

Healthy social support networks are linked to better adjustment. Interpersonal relationships and social companionship serve to maintain and enhance self-esteem, acceptance, and approval. Instrumental social support provides individuals and their families with tangible aid (such as language tutoring) as well as guidance and advice (about good teachers and supportive counselors). Instrumental supports are particularly critical for disoriented immigrant newcomer youth. LISA data suggest that social supports also can play a role in moderating negative influences.16

G. The Family

Family cohesion and the maintenance of a well-functioning system of supervision, authority, and mutuality, are perhaps the most powerful factors in shaping the well-being and future outcomes of all children. Families can support children’s schooling by establishing the value of education and promoting high expectations. They can also actively support children as they complete assignments. Immigrant parents who work long hours and may have limited schooling are at a distinct disadvantage in this regard. Immigrant parents are often unable to support their children in ways that are congruent with American cultural models and expectations. Many come from traditions that revere school authorities and expect parents to keep a distance from the day-to-day workings of their child’s education. This stands in sharp contrast to US expectations of parental involvement.

H. Peer Relationships

Peers often play an important role that can sustain and support the development of significant social competencies in youth. Peers can specifically serve to support or detract from academic engagement. By valuing (or devaluing) certain academic outcomes and by modeling specific academic behaviors, peers can establish the norms of academic engagement. Peers can tangibly support academic engagement by clarifying readings or lectures,

helping one another in completing homework assignments, and by exchanging information (about standardized tests, helpful tutors, volunteer positions, and other college pathway knowledge). Because, however, immigrant youth often attend highly segregated poor schools, they may have limited access to knowledgeable networks of peers beyond their immigrant group.

I. Communities and Community Organizations

Because no family is an island, family cohesion and functioning are enhanced when the family is part of a larger cohesive community. Culturally constituted patterns of community cohesion and supervision can support immigrant youth when they encounter the more socially toxic elements in their new settings. Youth-serving community based organizations, much like churches and some ethnic-owned businesses and extended family networks can enrich immigrant communities and foster healthy development among its youth through the support they provide to parents and families. Such urban sanctuaries, often affiliated with neighborhood churches, non-profit organizations, and schools provide youth out-of-school time that is not spent in isolation, unsupervised, or on the streets with one’s peers. Community program staff can serve as ‘culture brokers’ for youth, bridging the disparate norms in place in children’s homes and those in place at school. Adults who work in community programs such as those supported by the church provide tutoring, educational guidance, advice about the college application process, and job search assistance, information which is often inaccessible to immigrant youth whose parents have not navigated the academic system in the US and who attend schools with few guidance counselors.

J. Mentoring Relationships

In nearly every story of immigrant success there is a caring adult who took an interest in the child and became actively engaged in her life. Connections with non-parent adults – a member of the church, a community leader, a teacher, a coach – are important in the academic and social adaptation of immigrant adolescents. These children are often undergoing profound shifts in their sense of self and are struggling to negotiate changing circumstances in relationships with their parents and peers. Protective relationships with non-parent adults can provide immigrant youth with compensatory attachments, safe contexts for learning new cultural norms and practices, and information that is vital to success in schools.
Mentoring relationships may have special implications for immigrant youths. During the course of migration, loved ones are often separated from one another and significant attachments are ruptured. LISA data reveal that approximately eighty percent of immigrant youth were separated from one of both parents during the migration to the US. Mentoring relationships can give immigrant youth an opportunity to be involved in reparative relationships engendering new significant attachments. Since immigrant parents may be unavailable due to long work hours or emotional distress, the guidance and affection of a mentor may help to fill the void created by parental absence. The mentor can provide information about and exposure to American cultural and educational institutions, and help as the adolescent negotiates developmental transitions. If the mentor is bicultural, he or she can interpret the rules of engagement of the new culture to parents and hence, help to attenuate cultural rigidities. Bicultural mentors can serve as role models in the challenging process of developing a bicultural identity, exemplifying the ways in which elements of the ethnic identity can be preserved and celebrated even as features of the more mainstream culture of the United States are incorporated into youths' lives.

Taken together, these networks of supports can make a significant difference in immigrant children's lives. They can help immigrant youth develop healthy bicultural identities, engender motivation, model ethical conduct, and provide specific information about how to navigate schooling pathways. When successful, these relationships help immigrant youth and their families overcome some of the barriers associated with poverty and discrimination that prevent full participation in the new country's economic and cultural life.

Policy Implications

Major policy reforms must address two critical areas: the status of undocumented immigrants, and the structure of our nation's schools. Recent policy initiatives in the US have proven ineffectual in the short term, and thus irrelevant to the modern realities of migration in the longer term. The US immigration bill, approved by Congress on September 29, 2006 and

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subsequently signed into law by President Bush, failed to systematically address immigration reform. Nothing in the new bill addressed the fate of the undocumented immigrants already in the United States, or the need for more visas and possibly a guest worker program. Policies in several states that push newly-arrived immigrant children into the high-stakes world of No Child Left Behind (NCLB) are similarly short-sighted about the realities of immigration for children. Nowhere in any of these policies is there any discussion of how to aid the children of immigrants in becoming integrated and well-functioning members of our society.

The political class must develop a formula to regularize the status of undocumented immigrants. Without a clear and humane perspective, it will be impossible to develop any comprehensive policies to better the welfare of immigrant children. Regardless of exactly what the formula for regularizing status entails, the effects on access to opportunities for undocumented immigrant youth will be significant. Research suggests that undocumented immigrant youth as well as youth growing up in households headed by undocumented parents will most likely remain in the United States, rather than returning to their countries of origin. Without incorporating these millions of children into mainstream society, they are condemned to living in the shadows. The nation will be forced to bear the social cost of driving these youth deep into the world of illegality. Federal financial aid for higher education is not available to undocumented immigrants, and this produces ripple effects. Not only are employment opportunities limited for those with only a high school diploma, some undocumented immigrant youth begin to disengage from high school, knowing there would be no realistic way for them to pursue a college education. Some of these immigrant youngsters are making a premature transition to the labor market. Solving the problem of undocumented immigrants is a first and necessary step.

Current proposals in several states requiring newly-arrived immigrant students to be subject to take high-stakes testing after just one year in the

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18 The U.S. House of Representatives’ December, 2005 Immigration Bill, HR 4437, addressed the issue of undocumented immigrants by proposing to criminalize and deport millions of undocumented immigrants and harshly penalize anyone aiding them. The effects of this proposal – turning 11.5 to 12 million undocumented immigrants into felons overnight – would have been staggering.

United States would have very negative results. The research data suggest that the vast majority of immigrant children cannot possibly be expected to master the complex intricacies of academic English in one year of study, particularly in the highly dysfunctional schools where huge numbers of newly arrived immigrant students are concentrated. Submitting newly arrived immigrant youth to the regular testing regimes required under the No Child Left Behind federal law would push more youngsters toward premature disengagement from school. Rather than requiring immediate integration into the testing regime, we need policies that ease the acquisition of English, and school cultures where immigrant and native students are well integrated and learn from each other. This is the best way to keep children in school, and support the development of English language skills. It is important to remember, however, that in our globalized economy multilingualism is an asset. Immigrant bilingualism and its accompanying linguistic diversity are cultural resources to be nourished. We should make normative multilingualism an educational objective for all youth growing up in the global era, immigrant and native alike.

Conclusions and Final Reflections

This is the first generation in human history in which the fortunes of youth growing up far apart will be demonstrably linked by ever more powerful global socio-economic, political, and demographic realities. In cities like Toronto, London, and Los Angeles, global cultural flows are increasingly normative: people understand immigration and come to see it as an expected part of daily life. Every morning in New York City (as well as in many other global cities), youth from more than 190 countries get up to go to school, marking the first time in human history that one city represents practically every country on the planet (Linares, 2006). Youth now habitually create and exchange ideas with peers in faraway places, wear similar clothing, share tastes in music, gravitate towards the same Web sites, and follow the achievements of today’s global sports heroes – like soccer star Ronaldinho (a Brazilian who plays in Spain) or Beckham (an Englishman who now plays in Los Angeles).

Along with international migration and trade, new information, communication, and media technologies – are the high-octane fuel that drives global interdependence, as people across the world connect with one another instantaneously. These communication networks and the digitalization of data have another global effect with deep consequences for formal edu-
cation: They are putting a huge premium on knowledge-intensive work and making it possible for entire economic sectors to go global. Complex data for a tax company based in Boston can be entered in Bangalore; x-rays for a hospital in Brussels can be read and analyzed in Buenos Aires at a fraction of the cost. Fewer jobs are strictly local now, as larger sectors of the economy outsource work to other regions of the world (Friedman, 2005).

Although much of the concern in the United States about globalization and education focuses on competition – how the country can, for example, maintain its global edge – competition is, in fundamental ways, the least of our problems. In today’s globally interconnected world, issues that place youth at risk in China can lead to disaster in Toronto – as the SARS (Severe Acute Respiratory Syndrome) epidemic that appears to have originated in Guangdong Province, China in November 2002 quickly spread globally claiming victims half a world away including in Montreal, Canada.

Competition is yesterday’s challenge. Today’s challenge is collaborating to solve global problems that spill over national boundaries. Globally immigrants move with an optimism and hope in the future that must be cultivated and harnessed – almost universally they recognize that schooling is the key to a better tomorrow. Unfortunately, over time however, many immigrant youth, especially those enrolling in highly impoverished and deeply segregated schools face negative odds and uncertain prospects in many if not all advanced post-industrial nations. Too many leave schools the world over without ever developing and mastering the kinds of higher order skills needed in today’s global economy and society.

Reforming education to be more in tune with the new global reality will require focused energy, creativity, political will, and commitment of resources on a local, national, and international level. Education reform does not come easy or cheap, and it cannot be done without the political consensus to support costly interventions, such as major technological upgrades and intensive teacher training and mentoring. Schools can, however, replicate a number of elements from promising school models that may require less upfront financial investment.

First, schools need to restructure curriculum and pedagogy to place student engagement at the very center of learning. Educators should implement lessons built on key concepts and pattern recognition that are grounded in events and issues relevant to students’ lives. For example, assignments that encourage students to think about certain normalized activities – the food they consume or the clothing they purchase – in such a way that they begin to identify how their actions are embedded in a much larger global
contexts and have widespread implications can help make the global local for students. Public debates over sweatshop labor, global warming, and outsourcing take on a new meaning when students develop a consciousness how they relate to their lives and quotidian practices.

Providing students with ongoing and timely feedback is another successful technique to promote and maintain student engagement. Using a host of evaluation and communication methods, teachers, students, and parents can become partners in tracking a student’s development and collaborators in devising strategies to support continued academic growth. Setting up interactive websites where parents can get access to their children’s homework assignments and grades and teachers can post suggestions for parents helping their children with assignments can be an important first step in connecting home and school efforts to support a child’s progress. Additionally, virtual discussion boards where parents can communicate with teachers or with other parents, post messages, school announcements or other tips can facilitate further interaction and community-building.

Finally, generating a clear narrative of the school’s basic mission and fostering a shared sense of purpose among students and school personnel can be one of the major factors in generating a positive school climate and an engaging academic community. But schools need to go beyond simply writing a global mission in their official website. There is talking the talk and walking the walk. Schools can adopt like-minded sister schools in other nations. Students in different parts of the world can work together on special units, developed and sustained via the Internet, around global topics of mutual interest and relevance. For example, youth in a country of emigration such as Ghana can work with youth in a country of immigration such as the United States on joint projects of study. What are the causes and consequences of global migration now affecting Ghana and the United States? Why are there now about as many Medical Doctors from Ghana in the United States as there are Medical Doctors in Ghana? What are the reasons for this extraordinary phenomenon? What are the economic, professional, and ethical issues implicated in this global dynamic? Whenever possible, meaningful human interaction, in the form of work visits and exchanges can have a tremendous impact in nourishing a global sensibility and world-view. There are schools that have very successfully implemented such exchanges – like the Tensta School in Stockholm, Sweden, where approximately 80 percent of the students come from immigrant and refugee origin homes and the Ross School in Long Island, New York.

In addition to taking immediate action, schools and school systems
must develop a broader agenda that incorporates the crucial elements of a comprehensive 21st century education. To lead successful ethical, personal and professional lives in the age of globalization, all students, immigrant and native alike, will need an array of skills and sensibilities.

Critical Thinking Skills

Students must feel at ease working with mathematical and statistical tools that enable them to understand – and, in some cases, manage – complex data in multiple domains. To comprehend how SARS rapidly became a global health threat students need a basic understanding the genetics of viruses, but also of the elementals of epidemiology, and a general knowledge of human migratory chains. Students will also need to master the concept of the scientific method in order to conduct formal and informal research on their own lives and to become informed consumers of scientific research that too often is unregistered, unquestioned, or unchallenged. Interdisciplinary thinking will have a greater premium moving forward because single disciplines can no longer fully address the global problems we face today. The complexity of challenges today necessitates solutions that incorporate many different disciplinary perspectives and strategies, and the ability to approach questions from a variety of angles is paramount. While it is common for schools to link concepts from science and math classes and integrate social studies and language arts curricula, educators must begin to think about and elucidate connections among all four subject areas. Schools that structure curriculum around thematic units whereby science, math, language arts, and social studies classes all address concepts related to same theme using different materials and analytic tools offer a promising example. Such innovation requires flexible scheduling, common planning time for teachers, and a significant commitment on the part of school administrators to support this approach.

Communication Skills

Students will need to effectively interact with people of different races, national origins, and religions. They should develop a familiarity with other cultures and various religious practices, values, kinship systems, systems of governance, and methods of communication around the world. Technology has opened up many avenues to link students in one classroom to another classroom across the globe, and assignments that require interna-
tional collaboration, facilitating electronic pen pals, and setting up exchange programs are just some of the ways schools can promote this kind of learning. Most important, students must use this knowledge to act ethically and in a globally conscious manner, and schools must take on the responsibility of helping students reflect on and understand their rights and responsibilities as citizens of an increasingly heterogeneous global society.

Language Skills

Fluency in more than one language and culture is no longer an option – it is becoming a prerequisite for career advancement. Many schools, particularly in the United States, do their students a great disservice by providing inadequate foreign language training, and by extension, inadequate exposure to cultures outside the English-speaking world. School systems must train and attract high-quality language instructors, provide a host of language options to equip students with the language skills and cultural awareness they need to live in a multicultural, multilingual, globally interconnected world.

Collaborative Skills

The ability to work collaboratively in a variety of environments has never been more important for both securing a good job and for responsible citizenship in the global era. Schools are now responsible for preparing students to work under such conditions. Group work and cooperative learning, in which the teacher becomes a facilitator rather than an instructor, needs to play an ever-expanding role, replacing traditional ‘chalk and talk’ pedagogical methods that confine students to their desks and dissuade them from interacting with their peers in their own classroom or around the world.

Technology Skills

New technologies can help promote collaboration, develop interpersonal skills, and facilitate cross-cultural exchange. In addition, advanced technological skills are no longer optional for students in the 21st Century. Schools must embed technology across the curriculum and view mastery of technology alongside literacy and numeracy as skills required of all graduates. In addition, schools need to take some responsibility for improving students’ information literacy and helping them develop into discerning, savvy media consumers.
Education for the global era is education for lifelong cognitive, behavioral, and ethical engagement with the world (Suárez-Orozco, Suárez-Orozco, & Todorova, in press). For students to develop the ethics, skills, sensibilities, and competencies needed to identify, analyze, and solve problems from multiple perspectives, schools must nurture students who are curious and cognitively flexible, who can tolerate ambiguity, and who can synthesize knowledge within and across disciplines. Students will need to be able to learn with and from their diverse peers, work collaboratively, and communicate effectively in groups (Gardner, 2004; Organization for Economic Cooperation and Development, 2005). They will need to be culturally sophisticated and ethically grounded to empathize with peers of different races and religions and with different linguistic and social origins. Education for globalization should aim to educate the whole child for the whole world.

REFERENCES


Figure 5.

Figure 6.
Figure 7.

Figure 8.

Figure 9.