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Educating for Global Competence: Preparing Our Youth to Engage the World

Veronica Boix Mansilla & Anthony Jackson

Council of Chief State School Officers' EdSteps Initiative & Asia Society Partnership for Global Learning

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CCSSO
Council of Chief State School Officers

The Council of Chief State School Officers (CCSSO) is a nonpartisan, nationwide, nonprofit organization of public officials who head departments of elementary and secondary education in the states, the District of Columbia, the Department of Defense Education Activity, and five U.S. extra-state jurisdictions. CCSSO provides leadership, advocacy, and technical assistance on major educational issues. The Council seeks member consensus on major educational issues and expresses their views to civic and professional organizations, federal agencies, Congress, and the public.

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A NOTE FROM THE AUTHORS:

We would like to thank our colleagues on the EdSteps Global Competence Task Force, whose extensive expertise and collaborative efforts enabled us to advance the definition of global competence that sets the foundation for this book. We thank the teachers, students and leaders at the Asia Society's International Studies Schools Network, the International Baccalaureate, and Harvard Project Zero for their inspiring cases of global education. A special thanks goes to Heather Singmaster at Asia Society for expertly managing the project, to Flossie Chua at Harvard Project Zero for her editorial comments on earlier drafts, and to Margaret Millar and Kirsten Taylor at the Council of Chief State Schools Officers for their informed support throughout the book's development.

FOREWORD

Over the past several years I have had the opportunity to travel with chief state school officers to different places around the world—places such as China, England, Finland, and Singapore—to learn more about their education systems. These visits have underscored for me how factors like rapidly advancing technologies and global economic integration increasingly connect us all to communities throughout the world. Educators, whether in Louisville or Helsinki, face the same challenge as they prepare our students to live and work in the 21st century. I have found that in all countries people recognize the direct relation between their economic future and the effective education of their children. It is abundantly clear that the most advanced countries in the world are strongly committed to the continuous improvement of their education system. In these nations people are willing to make sacrifices—on a personal level and societal level—to do what is necessary to improve their children's future. After each visit, I have been left with a greater sense of urgency about the necessity to improve the education of our children by better supporting the development of their higher order thinking skills and their ability to apply these skills effectively to a broad range of problems. It is, in part, these skills that will enable them to invent and contribute to the new world.

It is in this context that EdSteps was founded. With funding from the Bill and Melinda Gates Foundation, the Council of Chief State School Officers (CCSSO) began exploring how to define and assess complex sets of important skills and competences that traditionally have been expensive and difficult to evaluate. After a comprehensive literature review, a survey of critical skills in the field, and discussions with representatives from a broad range of education and business organizations, it became clear that global competence needed to be included as one of the competences in EdSteps. To explore this issue, CCSSO, in collaboration with the Asia Society Partnership for Global Learning, commissioned a task force on global competence. The task force comprises representatives from state education agencies, nonprofit organizations focused on global education, and representatives from higher education institutions who are tasked with exploring global competence.

The task force met frequently for more than a year to discuss and refine the definition of global competence. They evaluated research and best practices to explore what capacities a globally competent student should embody. This work prepared the way for the formulation of the definition of global competence and related capacities set forth in this book. By providing a shared understanding of global competence, the task force has made a significant contribution to this emerging field. I appreciate all the hard work of the task force members, and I am confident that this definition will prove useful to educators throughout the world.

In writing this book, Veronica Boix Mansilla and Anthony Jackson have drawn on and elaborated the insights of fellow members of the global competence task force, further developing their thinking. The resulting work provides a useful context for the relevance of global competence in education, as well as clear practical applications demonstrating what global competence looks like in interactions between educators and learners. *Educating for Global Competence: Preparing Our Youth to Engage the World* will serve as an invaluable

resource for educators, administrators, policymakers, community leaders, parents, and students. While this book does not represent the official position of the chief state school officers or CCSSO, it should serve as a catalyst and resource for ongoing conversations and planning. It will help all of us think creatively and critically about how to better prepare the learners of today for the world in which they live.

I would like to thank Veronica and Tony for their efforts and the Asia Society Partnership for Global Learning for partnering in the important work of EdSteps and the co-publication of this valuable book.

Through my visits to schools in countries around the world, I have personally witnessed students exhibiting the global competences fully explored in this book—investigating the world, recognizing perspectives, communicating ideas, and taking action. The process of learning from and collaborating with global educational leaders has been vital to informing the work of CCSSO and transforming the United States education system. It is clear there is still much work to be done. The states are committed to implementing reforms that will prepare the next generation of learners for lifelong learning, meaningful work, and citizenship in the world. It is my hope that this book will serve to elevate the national dialogue on these critical issues and provide concrete examples and resources to foster global competence in our children. Our future depends on our ability to work together to meet these daunting challenges.

Gene Wilhoit
Executive Director, Council of Chief State School Officers

PREFACE

From one admittedly privileged standpoint, this book should not be necessary. In the minds of most who have thought about it, it is clear that today's students need a globally conscious education for what is assuredly a global era. Young people need to understand the worldwide circulation of ideas, products, fashions, media, ideologies, and human beings. These phenomena are real, powerful, ubiquitous. By the same token, those growing up in the world of today—and tomorrow!—need preparation to tackle the range of pervasive problems: human conflict, climate change, poverty, the spread of disease, the control of nuclear energy.

And yet this excellent, pioneering, aptly illustrated book is timelier and more necessary than ever. To be sure, one can locate scattered examples of exemplary teaching for our global era. Yet the vast majority of teaching around the world is still geared to preparing young people for lives in the 19th and 20th centuries. Our curricula (organized around traditional subjects), our forms of pedagogy (largely lectures), our use of media (largely text on slides), and our forms of assessment (often restricted to multiple-choice or short-answer responses) have changed remarkably little over the decades. Certainly these educational mainstays do not confront the issues I mention above.

A lifetime of research and decades engaged in practice have convinced me that one is unlikely to bring about change unless one understands deeply the obstacles to change. In the case of global education, they are considerable. To mention just the most prominent:

- With some exceptions, educators and policymakers concerned with education, however well meaning, have not themselves had the opportunity to think much about education for a truly global era; and even if they have, their own education has rarely prepared them to undertake such education seriously and effectively.
- Despite scattered calls for 21st-century skills and knowledge, there is no deep desire for such innovative education on the part of most families, or most citizens. We have nearly all been to school, we think we know what it should be like, and school approaches appearing markedly different from the "known" rarely find a favorable response in the community. At most, innovations are tolerated as long as they lead to adequate performance on traditional measures.
- Even when there is both the desire and the policy for a 21st-century education, our assessments are almost all geared for classical subject matter knowledge and almost never offer the means to assess the flexible, cooperative thinking that is the hallmark of interdisciplinary thought.
- Perhaps most perniciously in the United States—but, alas, not only in the United States—there is a deep distrust of education that attempts to transcend borders and to take seriously the customs, values, and priorities of nations and regions very different from one's own—and such provincialism and exceptionalism grows more fervent in times of crisis. Cosmopolitanism, internationalism, and globalism are often considered dangerous concepts or even "fighting words."

And yet, there are also hopeful signs. Young people often do not share the prejudices of their elders, and even when they do, their minds are far more likely to be changed. Younger teachers are more comfortable with new ideas, new media, and new practices—aspects of globalization are in their DNA. Specimen curricula, pedagogies, and assessments as described in this book are becoming better known and may well gain in popularity. Ultimately, those regions and nations that do transform their educational systems in the ways called for here will soon come to the fore internationally. And those examples—be they in India, Indonesia, Israel, or Italy—will prod the more dilatory nations to follow suit, lest they be left in the dust.

Not surprisingly, as someone who has been deeply involved in education and educational reform, I read this book in the light of my own ideas and priorities. Because of my long time and highly valued association with Veronica Boix Mansilla, I find the ideas herein very congenial. There is recognition of the importance of different ways of knowing, individualized curricula, performances of understanding, interdisciplinary stances, and the pressing need for minds that can go beyond standard disciplinary mastery, synthesizing across the spectrum of knowledge and creating broad-based new knowledge.

If I could foreground one personal preoccupation, it would be this: Around the world, ministers of education monitor their nation's place in international rankings. They cheer when it goes up, and they sweat when it goes down. In my view, it is important that we learn from what other countries are doing well. I admire countries like Finland and Singapore, which are in many respects so different from one another but nonetheless have high-performing students. However, the world will not be saved by high test scores. Throughout the 20th century and into the 21st we have seen all too well the incredible world-defying blunders committed by the so-called best and brightest. The disastrous Vietnam war, the unforeseen consequences of the invasion of Iraq, the financial meltdowns of 2001 and 2008—educational and financial elites bear much of the blame for these lamentable events.

What is needed more than ever is a laser-like focus on the kinds of human beings that we are raising and the kinds of societies—indeed, in a global era, the kind of world society—that we are fashioning. That is why for almost two decades, my colleagues and I have been studying what makes good persons, good workers, and good citizens, and why in recent years we have sought to go beyond study and nurture these positive qualities in young people. Most young people want to "do good"—they want to do the right thing. But the models they see about them often carry out work that is ridden with compromises and practice citizenship in irresponsible ways. As educators, we must model these positive virtues ourselves; we must explain the reasons why we do what we do and why we do not endorse other, perhaps tempting, alternatives; we must be willing to confront examples of bad work and bad citizenship, whether they occur among 20-year-olds or 60-year-olds, in history, literature, and our hometown; and we must help young people develop their own ethical compasses, which they can and should use in conjunction with their mentors and their peers.

To achieve such ambitious ends, a global education is certainly necessary. And if we are to have a globe worth inhabiting, we must attend unflinchingly to the kinds of human beings that will inhabit it, and the ways in which they deal with one another under often trying circumstances. The authors here call for action: I agree, but would add the phrase "well-motivated, constructive, world-building actions."

Howard Gardner, author of *Truth, Beauty, and Goodness Reframed*

Cambridge, MA

INTRODUCTION

Contemporary societies are marked by new global trends—economic, cultural, technological, and environmental shifts that are part of a rapid and uneven wave of globalization. The growing global interdependence that characterizes our time calls for a generation of individuals who can engage in effective global problem solving and participate simultaneously in local, national, and global civic life. Put simply, preparing our students to participate fully in today's and tomorrow's world demands that we nurture their *global competence*.

This document introduces a definition of global competence developed by the Global Competence Task Force—a group of state education agency leaders, education scholars, and practitioners—under the auspices of the Council of Chief State School Officers EdSteps initiative (CCSSO-EdSteps) and the Asia Society Partnership for Global Learning (see page (iv) for task force participants). The definition builds on seminal work within the states and a broad range of organizations working to advance global knowledge and critical thinking skills. A process of careful articulation and vetting yielded the definition of global competence here proposed:

> *Global competence is the capacity and disposition to understand and act on issues of global significance.*

Globally competent individuals are aware, curious, and interested in learning about the world and how it works. They can use the big ideas, tools, methods, and languages that are central to any discipline (mathematics, literature, history, science, and the arts) to engage the pressing issues of our time. They deploy and develop this expertise as they investigate such issues, recognizing multiple perspectives, communicating their views effectively, and taking action to improve conditions.

Educating for Global Competence: Preparing Our Youth to Engage the World is intended for classroom teachers, administrators, informal educators, policymakers, community leaders, researchers, parents, students, and all other stakeholders interested in preparing our youth for the 21st century. Becoming better at educating for global competence involves rethinking practices and recognizing that there are no simple recipes for success. As such, this book is meant to be used flexibly—browse, make connections, and concentrate on the chapters that you find most pertinent to your work. Experiment with ideas, challenge concepts, and share with colleagues. Ultimately this book must work for *you*. It is meant to be read in the way that best meets your needs, inspires your curiosity, and proves fruitful in the classroom.

Chapter one offers a rationale for global education in our nation and worldwide. Chapter two introduces a conceptual framework for global competence and explains the key role of disciplinary and interdisciplinary foundations in student learning. Chapters three, four, five, and six focus, respectively, on four core capacities associated with global competence: investigating the world, recognizing perspectives, communicating ideas, and taking action.

Chapter seven considers core principles of instruction for teaching global competence. Chapter eight looks at what schools and educational institutions can do to promote global competence—and how they might create a culture of global competence for youth and adults. Finally, chapter nine places global competence in the larger framework of public education systems in and beyond the United States.

CHAPTER I
A RATIONALE FOR GLOBAL COMPETENCE

Twentieth-century assumptions about the world are rapidly becoming obsolete. Globalization, the digital revolution, mass migration, and the prospect of climate instability are triggering new concerns and demanding a new kind of graduate. At the dawn of the 21st century we are recasting our understanding of economics, communication, security, cultural identity, citizenship, and the environment. Indeed, a growing number of reports document the new demands and opportunities these changes present our youth. They call for more powerful, relevant, and self-directed learning that will prepare the young to live, compete, and collaborate in a new global scenario.[1]

This chapter reviews three forces shaping lives on the planet: the flattened global economy and changing demands of work; unprecedented global migration and the changing nature of neighborhoods, identities, and citizenship; and climate instability and the growing need for global environmental stewardship. These three areas of transformation illustrate a world in transition—and illuminate the new educational demands that world presents. The following sections examine these selected transformations and explain how the proposed definition of global competence helps educators respond to the challenges they present.

The flattened global economy and changing demands of work

Consider the changing face of the business world. A company in one country employs workers in another one. Consumers in a third country buy the goods produced. Transactions are aided by high-speed internet communication, the lowering of import tariffs, and government incentives for foreign investment. The result of these ordinary interconnections is a process of globalization—one of unprecedented reach and breathtaking speed and consequence. Globalization, the accelerating traffic of goods, ideas, people, and capital around the world, has leveled the playing field for workers all over.[2] And increasingly, employers are looking for competent, reliable individuals who will work at an attractive cost—regardless of location.

A new distribution of labor is in the making. Jobs that involve routinized tasks or scripted responses are being done by computers or workers in the developing world—with little training and at a very low cost. Yet jobs that demand expert thinking and complex communication will remain in growing demand the world over. At the beginning of the 20th century only 5 percent of the jobs in America required specialized knowledge and skill. By the year 2009 at least 70 percent did so. Commentators such as Daniel Pink have pointed to the emergence of a "conceptual age"

that requires more than specialized skills and basic information. Our age demands workers able to synthesize different types of information creatively.[3] In fact, the top 10 in-demand jobs projected for 2010 did not exist six years ago. Here, too, international competition will prevail.[4]

In the United States, the New Commission on the Skills of the American Workforce articulates the challenge of global labor competition in sticking terms: "Today, Indian engineers make $7,500 a year against $45,000 for an American engineer with the same qualifications. Even if we were matched with Indian engineers in high levels of mastery of mathematics and science, why would the world's employers pay us more than they have to pay Indian engineers to do their work?" The commission postulates that the key to successful participation in the new global labor market is a "deep vein of creativity that is constantly renewing itself." It calls for a new generation of workers who "imagine how people can use things that have been never available before, create ingenious marketing and sales campaigns, build furniture, write books, make movies, and imagine new kinds of software that will capture people's imagination and become indispensable to millions." In their view, a high level of preparation in reading, writing, mathematics, science, literature, history, and the arts will be essential.[5]

What competences will students need to fare well in a flattened global economy?

Multiple skill sets have been put forth as essential to prepare our future workforce.[6] They range from learning, thinking, and innovation skills, such as thinking creatively and using systems thinking, to skills associated with life and careers, such as designing, evaluating, and managing one's own work for ongoing improvement and adapting to change. Collectively they offer a dynamic portrait of learning. Surprisingly absent in public discourse about work readiness is the lack of deep understanding by students of issues of global significance—how global markets operate, the promise and perils of transnational production, how social entrepreneurs contribute to human development while also meeting their bottom line, demands of economic and cultural development, and the dilemmas of inequality—to name a few.

The definition of global competence developed by the CCSSO/Asia Society task force complements the work readiness skills proposed by focusing educators' attention on students' deep understanding of and effective participation in the world in which we live. These capacities are not generic work, digital, social, or information processing skills. Rather, in this framework, competence is recast in global terms. It refers to students' dynamic learning *about*, *with*, *in*, and *for* a complex and interconnected world. To be competitive, ethical, and effective workers, today's students must understand key topics of global significance in areas like engineering, business, science, history, ecology, and other domains that may constitute their future work. They must learn to think and work like an expert,

> **[In my opinion] both teachers and students internalize the value behind a globally-focused learning adventure. It allows teachers to be passionate about their own practice, it equips students with the skills necessary to confront the many challenges of our ever flattening world.**
>
> **Susanna Pierce**
> **Teacher**
> **International School of the Americas**
> **San Antonio, Texas**

whatever the area of the curriculum or personal interest. They must understand the very economic, technological, and social forces shaping their lives and their future work.

Globally competent students prepare for a global economy by learning how to *investigate* matters of global significance. Are social networking technologies developing in the same ways in countries like the U.S. and China? What are the economic, social, and environmental consequences of outsourcing to India and Mexico? What tools do governments have to promote economic development and eradicate extreme poverty? Engaging complex and pertinent questions of this kind can encourage students to *recognize their own and others' perspectives* and *communicate* their positions clearly—two additional capacities that are especially important to today's global work teams. Most importantly, preparing to work in a flattened global economy will require that students learn to *take action*. It requires that they learn to identify opportunities for productive action and develop and carry out informed plans. For example, students may learn to design and promote products to succeed in a digital world or develop an awareness campaign on the environmental consequences of their city's purchasing habits. Prepared students, this framework suggests, view themselves as informed, thoughtful, and effective workers in changing times.

Unprecedented global migration

International migration is happening on a larger scale than ever, changing the demographics of classrooms and neighborhoods alike. According to data from the United Nations Population Division, by the summer of 2010 the total number of migrants in the world will have been about 214 million. Fifty million were estimated to be living in the United States. If all migrants were considered one country, it would be the fourth largest in the world in population, after China (1.4 billion), India (1.2 billion), and the U.S. (317 million).[7]

> **Teaching for global competence is essential to lifelong learners. Too often educators minimize the wealth of knowledge received from our students, especially when teaching in a multi-national/cultural environment as I do. Teaching for global competence sets us up for infinite possibilities.**
>
> **Mia Washington**
> **Teacher**
> **International Studies School at Garinger**
> **Charlotte, NC**

In 2008 this migrant population was responsible for $338 billion in remittances back to their countries of origin—a growing percentage of these countries' GDP.[8] Yet remittances are not economic alone. Migrants from the developing world bring with them and take home *social remittances*. They transport ideas, know-how, practices, and skills that influence their encounters with and integration into the societies that host them. Migrants also send back home such social remittances, which promote and impede development in their countries of origin.[9] As a result, world migration is felt in the classrooms, neighborhoods, markets, and streets of both sending and receiving societies in cities from Bangalore and Buenos Aires to Boston and Brussels. Much like global markets of labor and goods, migration today demands new educational responses. How can we best prepare youth for a world in which diversity will be the norm? How can we nurture graduates who are able to manage cultural complexity and increasingly blurred markers of origin and ethnicity? How can we prepare citizens who understand multiple spheres of participation—local, national, and global?

Whether through the media or in person, contact with individuals whose identity, culture, values, languages, and lifestyles are different will force our youth to compare others to themselves. How youngsters make sense of this will depend on the degree to which they have been prepared to live in diverse societies. Students who have learned intercultural skills, understand multiple contexts and traditions, and have had multiple opportunities to reflect on their own worldviews in light of others' are less likely to experience difference as a threat requiring violent defense. Rather they are more likely to experience the cultural encounter as an opportunity for exchange and collaboration.[10]

A growing percentage of new immigrant learners are part of a generation of *transnational* migrants. Unlike migrants in previous generations—and thanks to the digital revolution—these individuals are likely to remain in close contact with their countries of origin. They participate in religious, economic, cultural, and often political activity in two places. For them, healthy adaptation involves the development of a hybrid identity and dual citizenship that resists having to choose one nation over another one.[11]

Schools the world over bear a new fundamental responsibility: to prepare students for difference and complexity.[12] They will need to prepare all youth—migrant and hosting alike—for new contexts in which multiple cultures coexist. Managing this complexity—fostering kinship, communicating effectively, working together, valuing difference, benefitting from diversity—is essential to success in a global world.

What competences will students need to fare well in a world of unprecedented migration?

Preparing our youth to participate successfully in a world of increasing social, cultural, ethnic, linguistic, and religious diversity will require teaching them about the qualities—the history, languages, geography, and cultural contributions—of peoples the world over. It requires inviting them to revisit their own nation's qualities and contributions in a way that captures its multiple relations with other societies. Students should not be led to assess "how we measure up," but rather to engage in a comparative analysis that deepens understanding of a nation's historical and contemporary characteristics. Providing students multiple opportunities to examine what happens when cultures meet—whether in their neighborhood, classroom, or virtually—is of the essence. The task of nurturing intercultural sophistication is not the responsibility of social studies teachers alone: it behooves art, mathematics, science, language, and second language teachers to renew their curricula as well.

> **In my subject matter, the core standards in English promote educating students to focus on point of view within literature. This is an important part of creating global competence, as globally competent students have the ability to look at a situation through multiple perspectives.**
>
> **Nicole Mohr**
> **Teacher**
> **Vaughn International Studies Academy**
> **Los Angeles, CA**

The framework for global competence articulates two core capacities at the heart of intercultural sophistication: the capacity to recognize perspectives (others' and one's own) and the capacity to communicate ideas effectively across diverse audiences. It stipulates, for

example, that globally competent individuals can examine and explain their own worldviews and cultural traditions, recognizing how these influence their choices and interactions in everyday life. Competent individuals can also weigh other's perspectives, considering the factors—including culture, geography, religion, and others—that inform them. To be prepared for a world of growing cultural interaction and diversity, students will also need to understand what happens when cultures meet and influence one another. They will need to understand how differences in power, wealth, and access to knowledge affect opportunities for individuals and social groups. Thriving in a world of diversity involves communicating with diverse audiences—being able to recognize how different audiences may interpret information informed by their own perspectives. It demands that students listen and communicate carefully and respectfully, using appropriate languages and technologies to do so.

If recognizing perspectives and communicating with diverse audiences are at the heart of students' preparation for an interactive world, the two other competences put forth—investigating the world and taking action—are of no lesser value. Students who are able to pose their own questions and investigate cultural interactions are more likely to be reflective about the complexities they present. And students who are able to envision and carry out a plan of action—perhaps to aid cultural dialogue through community service or raise awareness about different perspectives through an art exhibit or blog—come to view themselves as active contributors in an increasingly diverse world.

> **We have a responsibility to our urban students who share classrooms and neighborhoods with people from all over the globe. They require the tools to understand and interact with people who have vastly different cultures in order to appreciate their many similarities.**
>
> **Global competence isn't as much about knowledge of other nations as it is about the skill of relating to people of diverse backgrounds. These skills are missing in urban America.**
>
> **Bryan Melnick**
> **Teacher**
> **Henry Street School for International Studies**
> **New York, NY**

Climate instability and environmental stewardship

Over the last few decades the earth has experienced a growing frequency of extreme weather conditions and overall rising temperatures. Scientists around the world predict the prospect of further climate change is high. If greenhouse gas concentration in the atmosphere continues to rise, the consequences will be alarming and adaptation difficult. Global warming is too narrow a term to describe a phenomenon that is shaping life on the planet—affecting the earth's climate, chemistry, and biology at once.[13] Consider a few of the consequences: ocean levels are likely to rise due to thermal expansion and the melting of polar ice sheets, affecting coastal areas and their water supply. Climate and chemistry changes are likely to impact land and sea habitats, causing large-scale extinction. Infectious diseases like malaria have already spread as rising temperatures make new regions accessible to the mosquitoes that transmit it. Rising temperatures and shifting patterns of precipitation are also affecting agricultural productivity.[14] An important job for the next generations will be that of managing the consequences of climate change and devising effective solutions for mitigation and adaptation. The challenge will be significant. A recent report on climate change in the U.S. puts forth,

> Much of the nation's experience to date in managing and protecting its people, resources, and infrastructure is based on the historic record of climate variability during a period of relatively stable climate. Adaptation to climate change calls for a new paradigm—one that considers a range of possible future climate conditions and associated impacts, some well outside the realm of past experience.[15]

Because greenhouse gases do not respect national borders, the problem is essentially a global one. Climate change is affecting every region, country, city, and village on the planet in distinct ways and shaping living conditions, job opportunities, and civic participation for youth. In recent years, the search for increased energy efficiency has begun to trigger new industries and technologies—from green architecture to carbon sequestration tools. Political life the world over has seen a rise in environmental debates—in fact, the environment is reported to be a primary motivation for youth civic participation in industrialized countries.[16] Yet despite such productive developments, a more concerted global effort will be needed to return atmospheric temperatures to sustainable levels and to adapt effectively to climate change. Mitigating and adapting to change will require furthering international climate agreements and enlisting all sectors of world societies in prudent resource use and sustainable innovation.[17] A comparative advantage will go to those who, based on a deep understanding of the problem, can create novel solutions. However, progress in mitigating and adapting to climate change will not stem solely from the newest technology or the latest top-level multilateral agreement. Progress will pivot on the numberless private decisions of individuals who view themselves as agents of history—globally competent actors in today's world.

What competences will students need to fare well in a world of climate instability?

Preparing our youth for a future of climate and environmental instability begins by helping them understand the workings of the earth, why and how climate change (past and present) takes place, and what consequences it is likely to have on various habitats and ecosystems, including their own. It will require that students understand how energy consumption in one place affects living conditions of people on the other side of the world and how we all depend on the same atmosphere for life. It will require that students understand current and future climate solutions and learn to weigh their potential against their risks.

> **[In] teaching for global competence as teachers integrate the pertinent themes across multiple disciplines into one meaningful task, students truly internalize the "big picture." Their own learning is more meaningful and clarifies the real-world application of seemingly esoteric topics. As a teacher, I delight in seeing the outcomes**
>
> **Susanna Pierce**
> **Teacher**
> **International School of the Americas**
> **San Antonio, Texas**

Efforts to understand climate change, its causes and consequences, will continue over the next generations, when today's youth and their children are the decision makers. Well prepared individuals will be able to *investigate* climate change sources and impacts: framing local problems for study, collecting and interpreting data, building informed arguments. Most important, these individuals will need to understand that scientific claims and projections are empirically grounded interpretations of the problem.

They will need to understand that the knowledge of today may be legitimately revised when new and more compelling frameworks or evidence become available. These individuals will need to see that our understanding of climate is provisional and subject to critique—and view these qualities as markers of strength, not weakness.

The global nature of climate change, paired with the multiplicity of impacts expected in various parts of the world, will demand that students learn to *recognize perspectives* carefully. How does a rising ocean affect fishing populations in Alaska or in coastal tourist villages in Bangladesh and New England? How prepared is each community to face the challenge? What adaptation options do they have? Thinking about climate change in ways that consider multiple locations, perspectives, and concerns, and *communicating effectively* about these various conditions prepares students for effective transnational cooperation—the kind of global approach necessary to mitigate and adapt to climate change. At a premium will be individuals who understand environmental systems around the world well. Most importantly, such individuals will find opportunities to *act* now as global environmental stewards preparing for the work of their generation.

Conclusion: Why does an education for global competence matter today?

The consensus is clear. The world for which we are preparing our youth is qualitatively different from the industrial world in which our public school systems were created.[18] Over the last decades numerous reports and policy statements have emphasized the need for new skills for the 21st century. This framework for global competence responds to the demands of a changing world differently, recognizing the central role that global interdependence will play in the lives of our youth. Increasingly, the work individuals in society carry out, civic participation, self-expression, social life, and health unfold in a global scenario. So while we welcome public commitment to teaching skills such as problem solving to all youth, we point out that the problems that students can learn about vary in significance, and we emphasize students' *substantive understanding of problems of global import*. Thus the approach here focuses squarely on nurturing students' substantive understanding of, and action in, the increasingly complex, diverse, and interdependent world in which they live. Globally competent youngsters will be prepared to further such understanding through inquiry, by recognizing perspectives, communicating with diverse audiences, and acting in competent ways.

> **After discussing and debating the riots and protests that have been occurring in Northern Africa (February 2011), one of my students asked if this will ever be in a textbook. I answered, "Yes…but probably not for another 5 years." We have to use what is happening in the world NOW to influence our students to make changes NOW.**
>
> **Jeffrey Finelli**
> **Teacher**
> **Ogden International School of Chicago**

To establish foundational expectations for student knowledge and skills, states created and adopted Common Core State Standards for what students should know and be able to do to be ready for college and careers in the United States.[19] These standards have been articulated for mathematics and English language arts, which includes literacy in history/social studies, science, and technical subjects. The Common Core State Standards outline content and skills

deemed essential for students to meet the demands of college and the workplace. By focusing on foundational mathematics and literacy abilities, the Common Core State Standards offer ample flexibility for teachers to create learning experiences in which students examine topics of global significance to meet the demands of an increasingly interconnected world.

We, in the United States, are certainly not alone in recognizing the importance of preparing students to cooperate and compete in the global scene.[20] In recent years countries around the world have seen the emergence of initiatives to infuse greater international understanding in their school curricula. For example, in a landmark document, the *Maastrich Global Education Declaration*, representatives of the European Council advanced a framework for global education designed to "open people's eyes and minds to the realities of the world and awaken them to bring about a world of greater justice, equity, and human rights for all." In these leaders' view, global education is thought to encompass—but is not limited to—education for human rights, sustainability, peace and conflict prevention, interculturality, and citizenship.[21]

> **We want each of our graduates at Ogden to be global citizens who feel comfortable in any situation they are presented with, regardless of where they may be. If we are doing our jobs correctly, our students will learn the skills they need to be successful in college and in their careers. We are trying to teach them to be lifelong learners who are respectful and caring of the people around them. By forming better global citizens, we are trying to create a ripple effect to benefit others outside of our school walls.**
>
> **Jeffrey Finelli**
> **Teacher**
> **Ogden International School of Chicago**

In Great Britain, the Department for International Development has sought to integrate global development issues into the formal curriculum through the Global Partnership Schools program, linking UK schools to schools in Africa, Asia, Latin America, and the Caribbean.[22] In Sweden, the Global Citizen Program prepares students, teachers, and school leaders to understand countries with significant importance to Sweden's future. Partnerships with schools in China and India are thought to prepare students for the real demands of the world, from studying abroad to engaging in sustainable development, corporate social responsibility, and economy and finances. In India, efforts toward international education build on ancient traditions of nonviolence and universal brotherhood. India's *National Curriculum Framework for School Education* calls for a school curriculum that promotes national identity and unity but also strives to "raise awareness of the necessity to promote peace and understanding between nations for the prosperity of all mankind." The framework expects international education to be embedded in existing subjects, although particular curricula focused on peace and human rights education have also been proposed.[23]

As these examples illustrate, many countries are articulating their global education agendas in alignment with national priorities and traditions. Their initiatives tend to converge on a few fundamental orientations. Several view the world as one system—human life as shaped by a history of global interdependence. Others highlight a commitment to the idea that there are basic human rights, including social and economic equality as well as basic freedoms. Most emphasize a commitment to cultural diversity and the importance of intercultural understanding and acceptance of differences of opinion, and a few point to environmental awareness and planetary sustainability.[24]

The definition of global competence here proposed echoes these initiative's aspirations. It does so not by creating an extended list of skills and significant concepts to be mixed and matched through instruction, nor by prioritizing education for the workplace over education for cultural sensitivity. Rather it does so by inviting educators, writ large, to pose a more fundamental question: what matters most for students to understand about the world so they can participate fully in its future? The challenge of preparing our youth for the future includes, but is greater than, preparing them for work and ensuring their college readiness. Pressing issues such as protecting the environment, managing unprecedented human migration, and addressing the challenges of poverty, global health, and human rights will demand a generation of individuals with a strong capacity to cooperate across national borders—individuals able to solve global problems in the workplace, among many nations, through the internet, and in private decisions.

An invitation to ponder

This chapter reviewed key rationales for educating for global competence. Keeping these rationales in mind, consider the world in which your students live.

I. From your perspective, in what ways are the societal and environmental transformations here described affecting your students' lives today? How will they be affected in the future?

II. In your opinion, what are the key reasons for educating for global competence? What are the barriers such an education might confront?

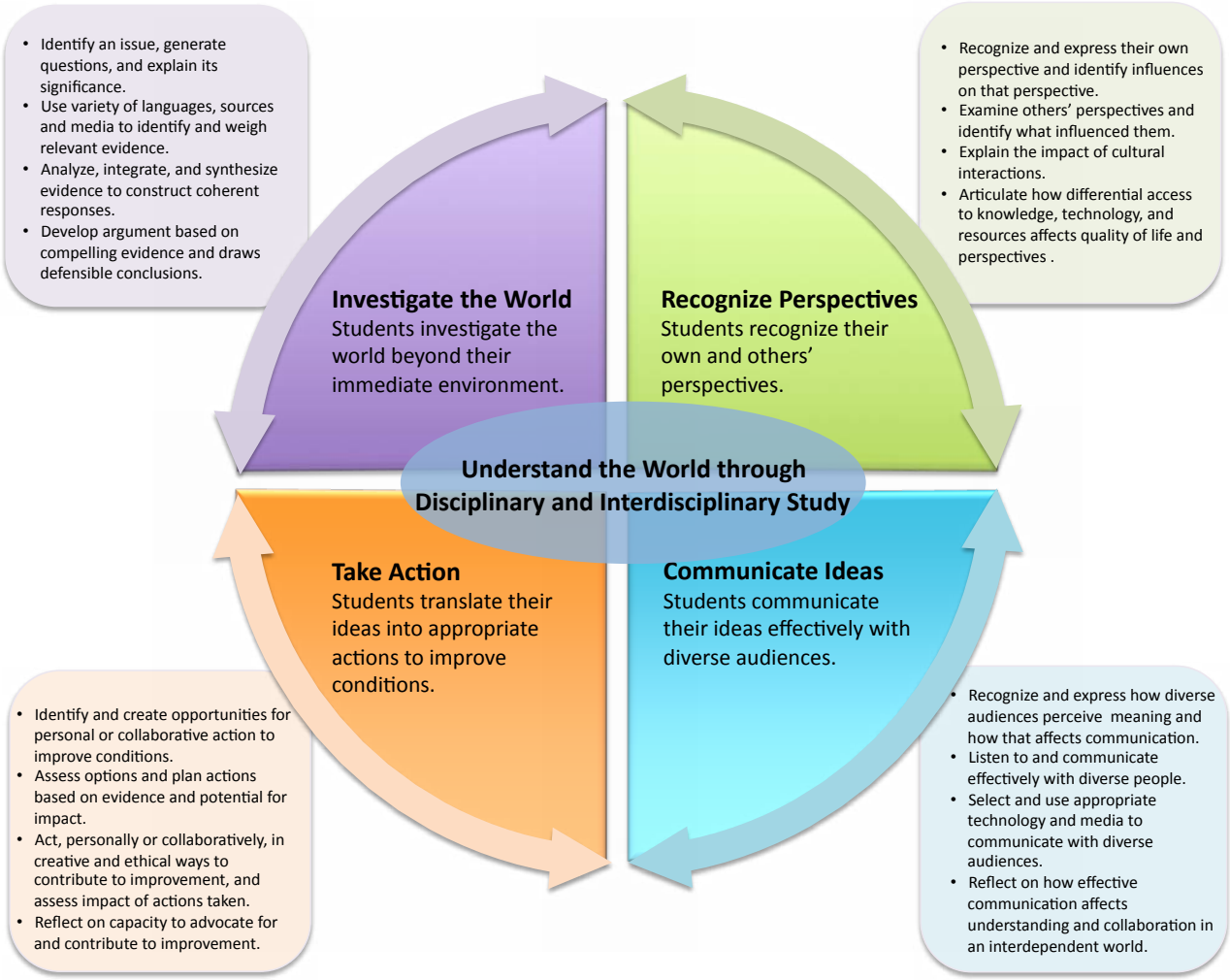
III. In your current opinion, what distinguishes a high- from a low-quality education for global competence?

CHAPTER II
UNDERSTANDING THE WORLD THROUGH DISCIPLINARY AND INTERDISCIPLINARY STUDY

A substantive understanding of the world is the foundation of global competence. Students demonstrate global competence through awareness and curiosity about how the world works—informed by disciplinary and interdisciplinary insights. Specifically, globally competent students are able to perform the following four competences:

1. **Investigate the world beyond their immediate environment**, framing significant problems and conducting well-crafted and age-appropriate research.
2. **Recognize perspectives, others' and their own**, articulating and explaining such perspectives thoughtfully and respectfully.
3. **Communicate ideas effectively with diverse audiences**, bridging geographic, linguistic, ideological, and cultural barriers.
4. **Take action to improve conditions**, viewing themselves as players in the world and participating reflectively.

While it is important to examine the four capacities above individually, global competence is best seen as an integrated outlook on the world—not a collection of independent skills. (See Appendices for a general matrix characterizing elements of global competence, as well as a series of subject-specific matrices outlining how the four competences can be interpreted for language arts, mathematics, science, social studies, and the arts.) The graphic depicts the dynamic interaction among dimensions of global competence:



This chapter focuses on the foundation of the four global competences: students' disciplinary and interdisciplinary understanding of the world. It begins by describing the essential role that a well-grounded understanding of the world plays in developing students' global competence. Then it goes on to examine two examples of student work, one from an early childhood learning center and one from a high school. The chapter concludes with three core assumptions underlying the framework for global competence: that global competence involves engaged learning, embraces the world selectively, and requires disciplinary and interdisciplinary knowledge.

Disciplinary and interdisciplinary understanding

Globally competent students understand the earth as a system. They understand multiple local contexts well. And they are familiar with the pressing issues defining our times. For instance, globally competent students may be familiar with the physical landscapes of the earth and its ecosystems, the way human populations are distributed, the economic

resources that sustain life and growth, and the history of cultures. A competitive advantage will go to those students who understand key issues and trends shaping our world today. Indeed, these topics will frame the work of their generation. Topics include, for example: environmental sustainability, population growth, economic development, global conflict and cooperation, health and human development, human rights, cultural identity, and diversity.

Understanding the world as such demands both disciplinary and interdisciplinary approaches.[25] Disciplines or subjects like literature, history, economics, mathematics biology, and the arts provide powerful lenses through which to interpret the world. Rigorous disciplinary understanding requires that students come to view the disciplines as the knowledge and thinking tools that our societies construct and revise to make sense of the world, explain phenomena, solve problems, create products, and ask novel questions in informed ways. Understanding a discipline thus involves understanding not only key disciplinary concepts, but also understanding how such concepts are produced with the aid of disciplinary methods, how they can be applied, and how knowledge in the discipline is best communicated.

While disciplinary understanding is an essential component of global competence, all too often issues of local and global significance cannot be approached through a single discipline. Topics such as environmental sustainability, population growth, economic development, global conflict and cooperation, health and human development, human rights, cultural identity, and diversity call for *interdisciplinary* approaches. Students demonstrate interdisciplinary understanding when they integrate knowledge, methods, and languages from different disciplines to solve problems, create products, produce explanations, or ask novel questions about a topic of global significance in ways that would not be feasible through a single disciplinary lens.[26]

Four key features characterize quality interdisciplinary understanding. First, interdisciplinary understanding is *purposeful*: students examine a topic in order to explain it or tell a story about it in ways that would not be possible through a single discipline. Second, understanding is *grounded in disciplines*: it employs concepts, big ideas, methods, and languages from two or more disciplines in accurate and flexible ways. Third, interdisciplinary understanding is *integrative*: disciplinary perspectives are integrated to deepen or complement understanding. And fourth, interdisciplinary understanding is *thoughtful*: students reflect about the nature of interdisciplinary work and the limits of their own understanding.[27]

Clearly, neither students nor experts can fully master the large amounts of available information about world geography, history, economics, anthropology, art, and other fields. But gaining global competence is not merely a matter of having more information. Rather, it pivots on students' ability to understand particular contexts, telling phenomena, and revealing transnational connections. Over time such substantive engagement with disciplines and topics of global significance will build the foundation for students' understanding of the world.

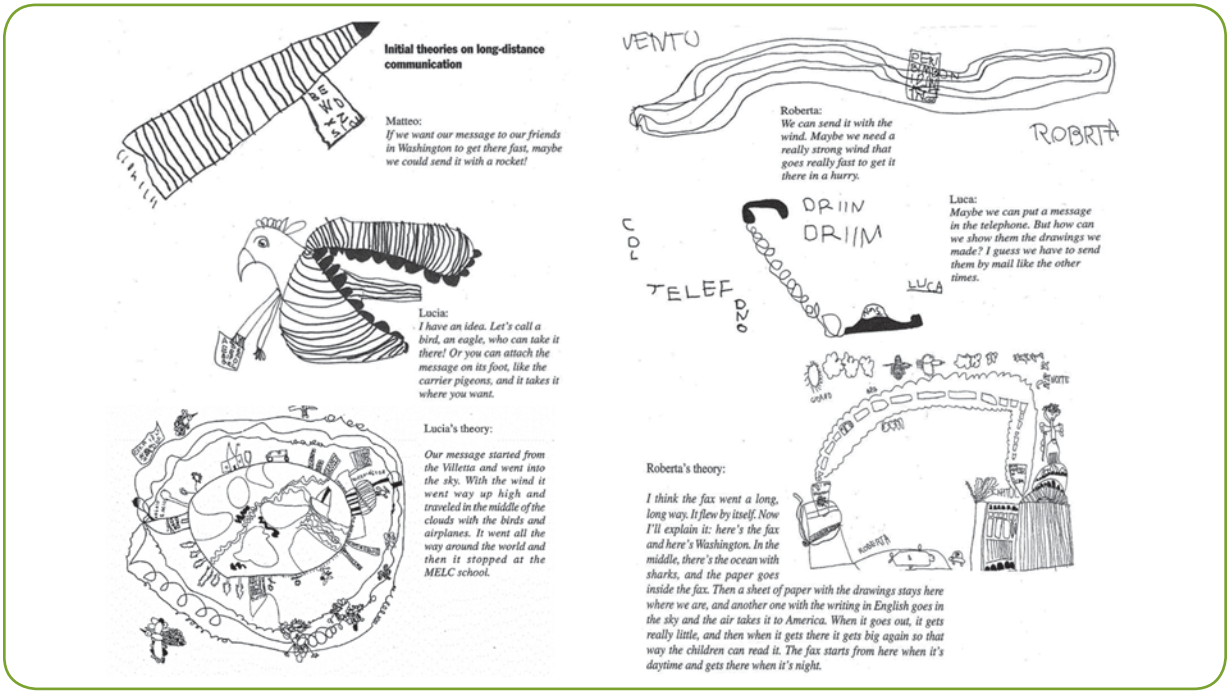
Schoolteachers across the globe are expected to teach core sets of concepts and skills deemed essential by curriculum experts at national, regional, and local levels. Nurturing students' global competence calls upon education leaders to examine how this core content can also enable students to understand and engage with crucial global issues. In the United States, the Common Core State Standards embody expectations for what students need to know and be able to do in areas such as English language arts and mathematics, K–12. Yet they also provide teachers and schools considerable freedom to focus instruction in ways they deem significant. For example, language arts students learn to produce a variety of texts: arguments, narratives, explanatory texts. These are requirements. Yet teachers enjoy a great deal of freedom when deciding what these texts will be about. A teacher or curriculum encouraging global competence may ask students to write an argument concerning the promise and peril of globalization, or a narrative on the life of a migrant child, or an explanation of how communication technologies work to facilitate democratic movements in a given region. In so doing, students develop their capacity to write in alignment with Common Core expectations while simultaneously becoming more globally competent—investigating the world, recognizing perspectives, communicating ideas, and taking action on global matters.

Example 1: Sending our letter to Washington, DC

The Municipality of Reggio Emilia, Italy
Preschool

How does a fax machine work? A group of five- and six-year-old children are brainstorming some theories on the subject. Specifically, they want to know how a fax machine works to connect their school in the city of Reggio Emilia, Italy, to Washington, DC? The children create drawings that build on conversations about the most efficient way to send a letter to a friend who has recently moved to the U.S. without using the Internet. Where is the U.S.? What is Washington, DC, like? Is it like our city? How does a fax machine work to get the message there quickly?

Over the previous weeks, questions of this kind have driven the children's exploration of the globe and communication technologies. They have shared and revised hypotheses about what their friend's school in Washington, DC, is like (for example, they learned it had a cat), how far away the cities are from each other, and how a fax machine communicates across the ocean. The pictures and hypotheses depict their imaginative, intuitive fax theories from the early days of their investigation:



How does this work illustrate students' understanding of the world?

These young children's understanding of the world begins with their curiosity and interest in making sense of how the world is organized spatially and how communication technologies work. The children *investigate the world* beyond their immediate environment, and their drawings exhibit a beginning sense of spatial geography. The globe is not a foreign object to them, but one where they can locate themselves, their school, and their city with ease.

To decide where exactly to draw the U.S. and Washington, DC, they must learn to visualize the location of continents. Children include localities that have personal meaning in their globe maps—such as the "hills of Ireland on the way to the U.S." These examples of children's drawings reveal their intuitive representation of maps and globes—an understanding that will later be informed by geography. Their beginning theories about how a fax machine works reveal their initial—still very obscure—theories of technology. Such theories will be challenged toward the end of the unit when an expert visits the class to dismantle an old fax machine and explain how it works.

Students also *recognize perspectives*—theirs in Reggio Emilia and their friend's in Washington, DC. The children's questions about the two cities—Is the Capitol building in DC like the piazza in Reggio Emilia?—illustrate their budding ability to compare localities and search for similarities and differences. Clearly, at this age, comparisons made by these children are rooted in particular aspects meaningful to them. What animals are in the other city? What do the big buildings look like? Is their city like ours? What are schools and people like?

The children *communicate ideas* effectively through visual and verbal means. Particularly compelling in this work are the nuanced and flexible ways the students put forth their emerging theories, consider other's views and solutions, revise their theories, and collaborate to understand the world. After discussing their theories, the children work together on a final group drawing:[28]

The pipe starts from Reggio. There's a clear pipe that travels. The fax goes inside the pipe and when the pipe runs into trees, it goes up and then it comes back down, and when there are curves the pipe bends.

Then it goes under the ocean where there are fish, sea urchins, and octopuses, and it goes under the ground because it doesn't want to get all wet. Then it comes back up after the ocean is finished.

Then it gets to Ireland, which is a really different country. The cars jump, the houses are like huts, and there are mountains and lakes, and it rains all the time, even in the summer. In Ireland the boats are different, too—they have two sails. When the pipe goes to Ireland, it passes through the middle of the mountains.

Finally it gets to Washington where our friends and Amelia are. In America, the pipe passes over the skyscrapers, over the statues, and goes to the machine at the school. That way our friends can read the message and they'll think about how it managed to get there so fast, like we do.

Luca: ***I think we can ask Alioscia to get a new piece of paper, a bigger one, and ask him if he can draw his fax, sort of the same, but longer, and then we can put in the other things, the houses like Lucia did, the ocean like Roberta's…***

Giacomo: ***We have to draw it together, because just one person alone can't do the hard things.***

Lucia: ***You can't understand everything that there is in the world - it's too big.***

These students are not just memorizing facts or definitions. Nor are they merely playing with interesting artifacts. They are engaging a complex problem in depth, communicating their thoughts collaboratively, making nuanced and thoughtful sense of how the world and the fax machine work. Eventually, informed by their investigation, the students send the fax to their friend—an informed communicative action.

Example 2: Globalization: Promise and peril

Newton South High School, Massachusetts
Grade 10[29]

Every year history teacher Michael Kozuck and English teacher Joseph Golding, together with colleagues in their departments and in the sciences, dedicate the last few weeks of class to a study of contemporary globalization. In groups, students track the production of objects that are part of their everyday life, such as Apple iPods, Motorola cell phones, Reebok sneakers, and Fender guitars. Their goal is to investigate the impacts, positive and negative, that job migration has on job receiving communities in China, India, and Mexico. One year a group presented on the promise and risk of building a new Reebok plant in the province of Guangdong, China. An audience of class peers was charged with deciding whether or not the community should approve the plant.

Three students represented corporate interests with detailed descriptions of job opportunities, working conditions, and newly revised health standards. They emphasized the company's

compliance with Articles 4 and 5 of the Universal Declaration of Human Rights—banning slavery and maltreatment—as well as their voluntarily chosen European standards for greenhouse gas emissions. They spoke of the hardships of Chinese migrant workers facing shifting values in society and introduced company programs to help them maintain mental and physical health.

A student representing an environmental nongovernmental organization (NGO) perspective was less sanguine about the new factory. He explained short- and long-term consequences of deforestation on nutrition cycles and the risk of extinction for endangered species like the giant panda and golden monkey. Other students addressed Reebok labor violations in the early 1990s—cases of child labor, compulsory overtime, and limited freedom of speech—as well as the more recent measures taken by Reebok to prevent new violations.

After complex deliberations weighing environmental factors and impacts on cultural traditions against poverty elimination and job creation, the class approved the construction of the new plant but requested that local authorities develop stricter monitoring procedures (e.g., surprise visits) to enforce compliance with labor standards. Whether their teachers agreed with the students' verdict or not, one thing was clear: these students were coming to understand the difficult decisions that individuals and societies must make in a rapidly changing world.

How does this work illustrate students' capacity to understand the world?

Students in this unit demonstrate global competence in using disciplines like history, economics, biology, and literature to examine and understand the impacts of outsourcing on developing regions. Drawing from economics, they use data about macroeconomic growth and concepts like *incentives* and *purchasing power parity* to make their case. Drawing on biology, they effectively apply core scientific concepts such as habitat, biodiversity, and ecological balance to argue for the preservation of the particular species endangered in each region.

The students also employ skills delineated by the Common Core State Standards to make sense of people's lives in distant regions. They analyze relevant literary works, examining the effectiveness with which authors use figurative language and rhetoric to convey the experiences of individuals confronting economic and societal change in their region. Drawing on history, students compare contemporary and historical accounts of how traditional rural families adapt during times of rapid industrialization. Students employ state standards intuitively—not with the goal of preparing for tests, but because habits of mind such as close reading of text, critical reading of data graphics, and compelling rhetoric choices are powerful tools in understanding and acting on the problems they study. By bringing together economic, environmental, and cultural perspectives on the problems under study—that is, by doing *interdisciplinary* work—these students are better able to reason their cases with nuanced sophistication. They integrate multiple modes of thinking and sources of information critically to convey a personal stance on an aspect of globalization. As one student put it,

Global competence is best developed *within* disciplinary courses or contexts. Students do not develop global competence *after* they gain fundamental disciplinary knowledge and skills, but rather *while* they are gaining such knowledge and skills.

> Globalization, in my opinion, is something that we don't have much control on. It's going to keep growing and there's not much we can do to stop it. However, there are many things that companies, governments, and individuals can do in order to make it run more smoothly and get rid of some of its negative impacts. It was essential to research the cultural, economic and political, and environmental aspects in order to not be biased (e.g., if one only researched the economic part, globalization is obviously great for China when one doesn't analyze the human rights that are being violated and the environmental degradation that it's causing). – Emily

Finally, students begin to reflect on their own cultural perspectives. "I went right home, turned over all the dishes in my house, and found that they were all made in Malaysia. Pretty much everything in my house seems made in Malaysia!" explains one student, lamenting knowing "almost nothing" about the people who made the dishes on which she eats. The students in this unit come to understand the ubiquitous nature of global interconnection as they see "the objects we buy at the supermarket or every plate in my home" as directly tied to the lives of the people and communities who produce them the world over. They *take action* by being more judicious in their consumption patterns, seeking to support only brands that operate responsibly in their outsourcing practices.

Conclusion

Students engage in deep learning when they find internal motivation to do their schoolwork—when they come to "own" the questions that guide their investigation of the world through core educational concepts. They set out to learn not merely to pass the next quiz, but because they experience the excitement and fulfillment of coming to understand the world and their role in it. Global competence is therefore best developed *within* disciplinary courses or contexts. Students do not develop global competence *after* they gain fundamental disciplinary knowledge and skills, but rather *while* they are gaining such knowledge and skills. Teaching for global competence occurs in the selection of curriculum content and instructional planning that enables students to meet national and local learning standards while at the same time providing students the chance to frame, analyze, communicate, and respond to issues of global significance.

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The examples above illustrate engaged learning of this kind. Students' understanding of the world is not memorized or merely factual. Rather it is nuanced, flexible, personal, and rich. Most importantly, by exercising independent and critical thinking about matters of global significance, by building on strong content knowledge, by collaborating and deliberating in groups, and by evaluating positions and evidence, students in these units are preparing to participate effectively in increasingly demanding educational settings—including college—as well as in their future worlds of work and community life.[30]

An invitation to ponder

In this chapter we have examined the central role that understanding the world in disciplinary and interdisciplinary ways plays in the development of global competence.

I. Take a close look at the examples of student work provided. What qualities attract your attention? What questions do they raise for you? What connections can you make to your own educational practice?

II. How can the knowledge and skills that your school, district, and state expect learners to master inform student understanding of the world in meaningful ways?

CHAPTER III
GLOBALLY COMPETENT STUDENTS INVESTIGATE THE WORLD

Globally competent students ask and explore questions of critical global significance: What is the expected impact of climate change on the Gulf of Mexico or the Gulf of Guinea, Africa? How prepared are local communities to adapt to the change? How does humor differ in the U.S. and in Afghanistan? How has the International Criminal Court interacted with national justice systems in Kosovo and Rwanda? How do immigrant adults from different religious orientations in the community experience the process of becoming American? These questions are *globally significant*. They address phenomena that affect a large number of people worldwide, they shed light on the diversity and commonality of experiences across localities, and they play out both in students' communities and in communities across the globe. Globally competent students can articulate the global significance of their questions and why these questions merit study.

Through careful framing and examination, important problems like these become researchable. Globally competent students do not seek a pre-established "right answer"; rather they engage intellectually and emotionally in searching for and weighing informed responses. To do so, they identify, collect, and analyze credible information from a variety of local, national, and international sources, including sources in languages other than their own. Competent students can weigh and integrate evidence to create coherent responses and draw defensible conclusions—in writing an essay, designing a solution, proposing a scientific explanation, or creating a work of art.

The box below outlines specific abilities associated with students' capacities to investigate the world beyond their local environments. These capacities are then illustrated with three projects revealing students' growing global competence: an investigation in Latin American literature by a 12th-grade student in New York, the work of a sixth-grade mathematics class in Minnesota, and a 12th-grade independent research project in Kenya. Finally, the chapter highlights a few of the learning challenges and opportunities that emerge when teachers invite students to investigate the world beyond their immediate environment.

Globally competent students are able to investigate the world in the following ways:

- Identify an issue, generate a question, and explain the significance of locally, regionally, and globally focused researchable questions.
- Use a variety of languages and domestic and international sources to identify and weigh relevant evidence in addressing a globally significant researchable question.
- Analyze, integrate, and synthesize evidence to construct coherent responses to globally significant researchable questions.
- Develop an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions.

Example 1: Magical realism and Latin American literature

International Studies School Network: HSSIS
Grade 12

Gabriel García Márquez's novel *Chronicle of a Death Foretold* explores themes of family, reputation, honor, revenge, justice, obsession, and communal responsibility. Following an in-depth study of the novel, its construction and socio-cultural context, students in Ms. Wise's English language arts class were invited to study the work of a notable Latin American poet of their choice. They had to explain the writer's global significance and examine how, as in García Márquez, the author's personal experience and literary choices convey his or her unique perspective. "Looking specifically at one continent of poets," Ms. Wise explains, "enabled students to see how these storytellers not only reflect current social perspectives and cultural values, but they also have the power to direct and criticize public opinion."

One student, Janel, focused her research on José Lezama Lima, a well-regarded and debated Cuban poet. "His writing is complicated to understand," says Janel, "given Lezama Lima's baroque style, [which is] similar to [that of] Luis de Góngora." In her essay, Janel demonstrates how Lezama Lima's work explores themes of disappointment, religion, sacrifice, and femininity. Accounts of the poet's life reveal how Lezama Lima's homosexuality and independent political views influenced his writing and his view of poets as interpreters of a complex and often paradoxical world. Janel writes,

> José Lezama Lima felt alone as a child. He lived in a society that was extremely judgmental and strict. A place where communism was present [and literature was not to] go against "revolutionary consciousness." [The author] was also famous for the novel he published in 1966, *Paradiso*, which is Spanish for "paradise." Because this book was detailed with content based on homosexuality, José Lezama Lima

> faced hardships when publishing it. According to the government, the novel went against the Cuban Revolution in that it lacked political commitment.
>
> Another source of social rejection was religion, a topic about which Lezama Lima wrote extensively. The Roman Catholic religion [was] practiced by the majority of Cubans. Therefore, it is likely that he once followed the same beliefs as other Cubans. Roman Catholics do not approve of homosexuality. As a gay man, José Lezama Lima had to sacrifice his religious beliefs because he was considered a sinner. He felt alone in social terms, and in religious terms as well. As a homosexual, he had to sacrifice his beliefs because, according to the bible, he is not fit to follow them.

Close reading of various poems, including "Melodia," enabled Janel to show how Lezama Lima's experiences were reflected in his densely symbolic work. She interprets the last lines of the poem as depicting a shattered dream followed by a paradoxically redeeming resolution:

> Curved glass in the untwisted hand.
>
> Cold dart falling more refined,
>
> the smoke towards the flute, and desired oblivion.

> The cold darts are coming from the air. . . . [T]hey are targeting something—a dream. Dreams may shatter, just like glass, no matter how carefully he holds on to them. He wanted to fulfill a dream but it vanished before he reached it: disappointment. "Melodia" evokes the many disappointments the author faced throughout his personal life as well as his career. Nevertheless, [the smoke suggests] hope will emerge and perhaps he will unconsciously attain his desire, and his melody would be heard. . . . In "Melodia," Lezama Lima makes his readers envision solid objects in order to comprehend the non-literal idea that lies within the text.

How does this work illustrate the students' capacity to investigate the world?

Identifying an author and explaining the significance of his work locally, regionally, and globally.

Janel identifies Lezama Lima as an author of local and regional significance. In his work, universal themes are experienced and examined within the particular context of the Roman Catholic and communist society in which Lezama Lima grew up. As a marginalized homosexual writer, Janel explains, Lezama Lima found refuge in literature—and influenced a generation of Cuban writers.

Using a variety of languages and domestic and international sources; analyzing, integrating, and synthesizing evidence collected to construct a compelling argument.

To produce her essay, Janel must identify, interpret, and synthesize a range of sources: original and translated publications of Lezama Lima's work, biographies, and reviews produced in and outside of Latin America. Through a classical literary analysis approach, Janel selects samples

of Lezama Lima's writing to ground her argument. Through close reading, she discerns literary choices that both support and challenge her argument—that is, that marginalization plays a key role in Lezama Lima's work.

In sum, Janel draws on literary analysis tools to make sense of the work of a poet whose life was shaped by forces very different to those shaping her own. In doing so, she comes to understand the way in which this particular example of Latin American literature speaks to the political climates on which it stands.

Example 2: Investigating ancient number systems

International Baccalaureate: Sandburg Middle School, Minnesota*
Grade 6

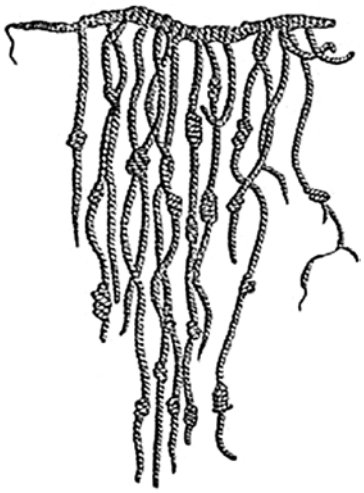
The sixth-grade math unit on ancient number systems is designed to help students place the decimal system used today in a broader global and historical context. Students are expected to recognize the diversity of ways in which humans have represented quantities and the historical innovations that contributed to the Arabic-Hindu system used today. In a class presentation, a group of students compared two of the six ancient number systems the class explored. Three questions guided their inquiry about the Roman and Inca-*quipu* systems: Which number system is better for doing computations? Which number system seemed more useful in real life at the time? Which number system could we use today?

To address these questions, students represented multiple numbers in the selected ancient system and tested the systems with simple mathematical operations. They also considered the number system's effectiveness in a series of given scenarios: keeping track of llamas in the mountains, keeping track of events over time, predicting how much wood the men in a village would be able to gather, and traveling to gather demographic information. They then deliberated potential uses of each number system today.

In its presentation, the group described its analytic approach. Ease of computation was measured according to the time each student took in solving the given operations. Assessing applicability to real life involved discussing each scenario, listing pros and cons, and ultimately rating the system's applicability on a scale from one to five (very good to very bad). Students estimated mean times and scores in their group. They presented a bar graph for their audience to best view how the two number systems compared. They pointed at patterns to form conclusions, for example, that the Roman system was particularly helpful for small addition and subtraction, as letters could be added and removed from a simple number with ease. The *quipu* (consisting of carefully placed knots on a series of strings) was a helpful tool to the Incas. It enabled them to tally and travel along the Andes, as it was lighter than a flagstone on which to make marks. The *quipu* used a 10-base place value system, which made it able to handle large numbers with ease. Disadvantages were also considered: ambiguity about the meaning of particular place value on each string and the cumbersome nature of having to tie knots. In

* This unit description is adapted from its original version to illustrate inquiry in math.

concluding reflection, students appreciate the commonalties between these number systems and the Arabic-Hindu one used today.



How does this work illustrate the students' capacity to investigate the world?

Investigating a topic of regional and global significance.

Students demonstrate global competence when they engage in a comparative study of number systems around the world. Their teacher has framed the problem in order to help these young students understand at once the universality of human quantitative thought and the cultural and historical variations and influences that preceded today's number system. By limiting their analysis to two contrasting systems these students are able to explore the problem in depth.

Using a variety of languages; analyzing, integrating, and synthesizing evidence to construct coherent responses.

Understanding unfamiliar numerical languages is at the heart of this unit. Students become familiar with the notational rules and forms of reasoning embodied in the assigned number systems. They also gather systematic data on the properties of each system—ease of computation, applicability to everyday life, usefulness today—to produce conclusions that are not merely impressionistic but grounded in systematic data.

Students further demonstrate their capacity to investigate mathematics by producing a bar graph to represent their results. The graph sets the foundation to compare number systems. Close analysis and further reading about each system enables students to make inferences about how systems may have been formed to suit practical needs. For example, students noted that government officials traveled along the Inca empire to record its population, cattle, and sheep—thus the portable *quipu* was crucial for a civilization that had not developed a written language. Furthermore, a review of each system's characteristics enables students to explain, for example, that the reason why Roman numbers are easy to add and subtract is because they are built on a logic of addition and subtraction.

Example 3: Comparing knowledge and beliefs about HIV/AIDS across religious communities in Mombasa, Kenya

International Baccalaureate: Aga Khan Academy, Mombasa, Kenya
Grade 12

As part of his extended essay graduation requirement for the International Baccalaureate diploma, Samir conducted a study of knowledge and beliefs about HIV/AIDS among three religious communities—Christians, Hindus, and Muslims—in his city of Mombasa, Kenya. He explains that the HIV/AIDS epidemic has affected millions of families in sub-Saharan Africa, and "a missing generation of young adults has left communities unable to pull themselves out of extreme poverty." Learning about HIV/AIDS requires a critical examination of one's initial beliefs about its causes and treatments—beliefs that often intersect with cultural and religious values.

His essay examines how religion and attitudes about HIV/AIDS interact. He asks two questions: What do members in each community know and believe about the causes of HIV/AIDS and its possible treatments? Do members of particular communities share similar views and, if so, what role do religious leaders play in shaping their communities' beliefs, knowledge, and attitudes about the disease?

Samir asked leaders, adults, and youth in the three religious communities to complete a questionnaire structured to capture popular beliefs and misconceptions about HIV/AIDS (its causes, transmission, and treatments) as well as scientific, biological explanation. Examples of survey questions include:

2) What is HIV?
   a. Household Intellectual Virus
   b. Human Immunodeficiency Virus
   c. Human Intelligence Virus
   d. Humanitarian Immune Virus

9) How can you prevent HIV?
   i. Stay away from infected people
   ii. Using safe blood and making sure you don't get cut by anything like a nail sticking out in a matatu
   iii. Do not share utensils with infected people
   iv. Using direct contraceptives (condoms**)
   a. i only
   b. ii and iv only
   c. i and ii only
   d. All of the above

13) Could the AIDS pandemic be avoided **medically**?

a. Yes, a vaccine could be taken

b. Yes, people could have taken contraceptive drugs after intercourse with an infected person or bled out the blood which was transfused from an infected person.

c. No, because the way to prevent a pandemic or an epidemic is to vaccinate as many people as possible, and there is no vaccinate a whole population.

14) HIV's genetic meaterial consists of:

a. 1 DNA strand

b. 2 identical DNA strands

c. 2 un-identical DNA strands

d. 2 identical RNA strands

19) How would you behave towards a person with HIV/AIDS?

a. Stay away from him/her

b. Be friendly but do not touch or share food with him/her

c. Be normal with him/her, but cautious of blood exchange

d. Tease/bully him/her about his/her condition

18) *The following pi chart shows the leading diseases in Africa:

Which part of the chart shows HIV?

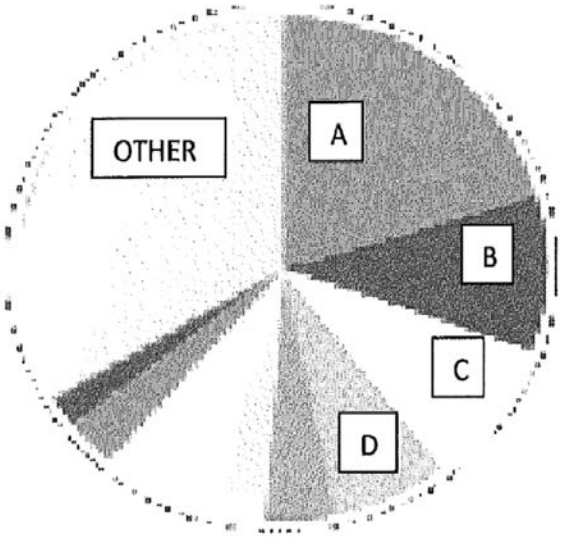


Chart 9 -diseases in Africa

a. A

b. B

c. C

d. D

Results reveal consistent views within religious communities but important differences across them. These differences were corroborated by interviews with religious leaders, which showed varying degrees of scientific knowledge and overall attitudes toward the disease between communities. Building on his research, Samir draws connections about how religious ideas may influence communities' attitudes toward HIV/AIDS, and whether those attitudes are more or less scientifically informed.

How does this work illustrate Samir's capacity to investigate the world?

Identifying an issue, explaining its global significance, and crafting focused, researchable questions.

First, as a globally competent student Samir was able to identify and effectively frame an issue of interest to him: the role of religious belief in people's understanding of and attitudes toward HIV/AIDS. He explained its significance for his fellow Kenyans and other sub-Saharan Africans with clarity:

> In Kenya, in the year 2007, between 1,500,000–2,000,000 people lived with HIV/AIDS, and 85,000–130,000 people died. This means that, having affected a mass number of people, it is an area that requires a lot of awareness. . . . Mombasa, the area of this study, is controlled by religious ethics; mainly Islam, Christianity and Hinduism. . . . [It] is important to consider that in Mombasa, religious morals and values are considered very important.

Using a variety of languages and domestic and international sources.

Samir's survey questions were carefully designed to reveal scientific knowledge and misconceptions. He enriched his work by studying selected parts of sacred books from the three traditions. And he utilized language skills to produce two versions of his survey, one in English and one in Swahili, inviting subjects to choose their preference.

Analyzing, integrating, and synthesizing evidence collected to construct a coherent response.

Samir draws from his research to test his initial hypotheses. For example, he had hypothesized that adults across communities would not appreciate hearing religious leaders speak publicly about HIV/AIDS or sex. Yet the results suggest otherwise:

> [That hypothesis was] rejected as a majority of the adult people interviewed in all three religions said that reactions to a sermon on HIV/AIDS would be positive. However, a majority of the students interviewed believed that they cannot ask questions on the matter in their religious institutions. Conversely, a number of them have heard a sermon on HIV/AIDS, which counters the sixth hypothesis (that the students would not have heard much in their respective religious institutions).

Developing an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions.

Samir draws on his analysis to propose defensible conclusions and recommendations for action:

> The level of basic awareness was high in A.K. Academy throughout the year groups. However, in J. Academy, [awareness was low among younger groups]. . . . The low basic awareness in these year groups could be the cause of discrimination against people with HIV/AIDS. . . . These results show that although the students are aware of HIV/AIDS, they still need to be educated more on the topic. They need to be educated mostly on the basic knowledge. This can be done in the schools by having HIV/AIDS awareness weeks, holding seminars, or even by introducing the awareness of HIV/AIDS in the syllabus of the classes. This would expose students to it and allow them to be aware of the dangers that exist.

Finally, Samir shows self-critique, cautioning readers about generalizations and raising further questions for inquiry:

> [L]ooking at students in two schools is not enough to make a generalization on the level of awareness in all the international schools in Mombasa. Besides, the study did not allow students to give suggestions about what is the most effective way to raise awareness within their age mates. In future, the same study should be repeated, with all international schools in Mombasa taking part, and interviewing more leaders and adults of the various sects of each religion, so as to reach a general conclusion of what level the international schools in Mombasa are at when it comes to awareness. In addition, a similar study should be done with government schools, so as to assist the government with raising the level of awareness in its schools.

Opportunities and challenges in investigating the world

The three examples above illustrate how students can engage in research about issues of global significance in ways that present important opportunities and demands for learners. Their work draws on, and sometimes integrates, disciplines such as literature, mathematics, history, biology, and comparative religions. Students must understand that conducting research is not merely a fact gathering exercise, but rather a systematic effort to address a meaningful research question. With proper guidance, students learn to move beyond simple information gathering activities ("I will find information about Latin American poets.") and questions too broad to be addressed in empirical depth ("Why does HIV/AIDS exist around the world?") to craft and investigate questions that are researchable and relevant at once. "How did personal experience in Cuba and literary choice influence Lezama Lima's unique literary perspective?" "What do members of three religious communities in Mombasa know and believe about the causes of HIV/AIDS and its possible treatments?"

Oftentimes the questions of global significance that guide a student's inquiry are not addressed in textbooks. Topics like beliefs about HIV/AIDS remain open-ended. Managing such uncertainty is challenging for students who are used to viewing learning as a simple acquisition of facts. Students who investigate the world must be supported in their efforts to gather, weigh, and interpret material from a broad variety of sources—sources that often disagree. They must also be supported in producing coherent arguments despite such disagreements, offering evidence and considering counterarguments for two or more perspectives on an issue. Building strong evidence-based arguments about open-ended questions is a difficult skill to acquire, but a valuable—and even necessary—one in our changing world.[31]

Finally, it is important to note that students investigating the world are typically meeting the core learning requirements of their school systems. For example, Janel demonstrates her developing ability to "cite strong and thorough textual evidence to support [her] analysis of what the text says explicitly as well as [her] inferences drawn from the text"—a Common Core State Standards expectation for what students should know and be able to do to be ready for college and career (Reading Standards for Literature 6-12, Key Ideas and Details). Perhaps most importantly, these students have an opportunity to meet such expectations within the broader context of meaningful investigation of the world. As students apply their growing global competence to engage new topics with sophistication, they prepare to succeed in college and participate in the life of work and civic society.

An invitation to ponder

I. Consider the content you are teaching this year. Are there specific issues of local and global significance that invite student investigation? Are there particular forms of inquiry they might learn by investigating the world?

II. From your perspective, what are some learning challenges that your students might face when framing researchable questions; gathering, weighing, and interpreting information; or synthesizing evidence to construct an argument? What can you do to best support them?

III. From your perspective, what is the value of inviting students to investigate the world beyond their immediate environment? What are the risks? Consider sharing your views with a colleague.

CHAPTER IV
GLOBALLY COMPETENT STUDENTS RECOGNIZE PERSPECTIVES

An important step students take toward global competence is recognizing that they hold a particular perspective—one that others may not share. To reach a full understanding of world issues, they must be able to articulate and explain the perspectives of other people, groups, or schools of thought. Globally competent students understand, for example, how economic conditions may inform individuals' expectations for their lives, how religion may inform people's sense of responsibility. They understand that access to knowledge and technology is unevenly distributed in the world, affecting people's views and quality of life. Deploying their knowledge of history, culture, and current events, students with global competence are able to compare their own perspectives with those of others. And when needed, they can integrate these various viewpoints to synthesize a new one—the kind of comprehensive perspective vital to addressing complex global issues.

The box below outlines four specific capacities associated with *recognizing perspectives*. These capacities are then illustrated with two examples of student work: the first stemming from collaborative work between schools in California and Bangalore, India; the second from an eighth-grade English language arts classroom in a Seattle public high school.

Globally competent students are able to recognize perspectives in the following ways:

- Recognize and express their own perspective on situations, events, issues, or phenomena and identify the influences on that perspective.
- Examine perspectives of other people, groups, or schools of thought and identify the influences on those perspectives.
- Explain how cultural interactions influence situations, events, issues, or phenomena, including the development of knowledge.
- Articulate how differential access to knowledge, technology, and resources affects quality of life and perspectives.

Example 1: Exploring shelters across the world

Todd Elkin: Washington High School, Fremont, CA

Ariel Roman: East Oakland School of the Arts, Oakland, CA

Arzu Mistry: Drishya Kalika Kendra (Learning Centers for Urban Poor), Bangalore, India

Informed by statistics about the global rise of "mega-slums" and inspired by contemporary artists' engagement with such issues, the shelter project brought together students from three educational institutions: two American public schools (urban and suburban) and a learning center for the poor in a slum of Bangalore, India. Elkin, Roman, and Mistry designed the project to raise students' awareness about global living conditions. The project encouraged students to think of themselves as contemporary artists taking part in a global conversation about how the majority of the world population lives. "How does what you make as an artist relate to your responsibilities as a citizen of the world?" teachers asked.

The unit capitalized on the cultural, socioeconomic, and environmental diversity of the three schools, inviting students to communicate with each other and respond to each other's work through a shared blog and Skype conversations. The unit culminated with the creation of site-specific shelters. For students in the U.S., the shelters represented explorations in contemporary art. For students in Bangalore, the project turned into the designs for a mobile classroom of the future—a temporary student learning space fit for meditation and study. In their designs, students were inspired to use recycled materials like colorful plastic bags and bottles to filter sunlight, creating a visually rich space for well-being.

How do these students demonstrate their capacity to recognize perspectives?

Recognizing and expressing their own perspective on situations and identifying the influences on that perspective.

For the American students, the project raised awareness of world inequality and their relatively privileged lifestyles. This was especially true for suburban students, who saw in the project an opportunity to revisit their own place gratefully and critically. Students appreciated their access to technology, not having to work, and the relatively safe and tidy neighborhoods they live in. They came to understand how living in this context influences their perception of standards of living. As one student comments,

> A surprisingly high number of people live in shantytowns [and the like] and in poverty. It's funny how people tend to think that everyone lives the same way that they do, probably because we are surrounded by people with the same lifestyles. But, when you get out of your comfort zone and really see what is going on, it's crazy. We are so lucky to have what we have.

These students were also able to raise awareness and critique as contemporary artists:

> Our shelters were made for a reason. . . . They are installations that change the space. How often do you see a shantytown in the suburbs? Through all of these aspects, the shelters could create a new light around what a shelter actually is. It's not just a box.

Examining perspectives of other people, groups, or schools of thought.

Exchanging images and interacting online enabled students to see each other's environments and analyze differences in culture, styles, and knowledge. Todd Elkin's students at Washington High School immediately noticed the learning space used by Arzu Mistry's students in Bangalore—where children worked typically on the ground, barefoot, and outdoors. The Indian students' familiarity with natural elements and awareness of their environment became evident as they offered feedback to Elkin's students' designs. The U.S. students recognized that living and learning "closer" to their natural environment influenced their Indian peers' viewpoints and priorities. Ideas from the students in Bangalore established an important balance of power and respect across student groups. Consider the following examples from two of Mistry's students:

> Nandini: Have you thought about using your sloped roofs for rainwater collection? The edge of the roofs can have gutters on them. Look at our meditation rooms.
>
> Chandrakala: Are your homes going to have gardens? When we designed our spaces we had to think of 5 questions: 1. How does your space interact with the sun, wind, rain, and acoustics? 2. How does the physical aspects of the classroom inspire learning (windows, doors, boards, benches, etc.)? 3. How does your space deal with wastes? 4. How does your space improve the

> environment/have a positive Eco-Footprint (food, forests-landscaping, wastes, electricity, other inputs…) 5. How does your classroom inspire creative play? Do these 5 questions work for your space/models even though it's a house and not a classroom?

Explaining how cultural interactions influence situations, including the development of ideas.

The collaborative nature of this project enabled students from diverse backgrounds to share ideas, influence one another's designs, and recognize similarities in approaches. Shared tasks were potent platforms for collaboration, cross-cultural analysis, and deeper understanding. One of Elkin's students, on sharing techniques for brainstorming:

> I think that their poster is visually more appealing than the one that we did. It's cool to see people using the same train-of-thought method in a different part of the world. Even though I may not be able to understand what is written on the paper, the technique is relatively similar and I think that is really neat.

Articulating how differential access to knowledge, technology, and resources affects quality of life and perspectives.

Despite their drastically different socioeconomic environments, students in California and Bangalore engaged in a serious reflection about the ways in which food, shelter, and education affect people's lives. The discussion was not limited to material wealth but to the conditions that enable well-being and the individual's responsibility to consider the well-being of others. "In our opinion this unit was a sneak peek into the emotions of homeless people," comments one of Elkin's students, "But this peek is not limited to homeless people—it was a way to experience the emotions of any person who has faced [these kinds of] dilemmas in their lives." Mistry explains:

> The students were engaged in a global conversation about education for all. Heated conversations during critiques argued whether we needed to design for 40 children, like in our centers, or 500 children like in the government school next door. The children were engaged in conversations around quality, scale, and need for education. As artists they were a part of global conversations keeping their real context (socioeconomic, cultural, geographic, and environmental) in mind.

Mistry believes that reflecting about the importance of education and life experiences can helps students reframe how they view their opportunities. "Most of the children we work with are children of construction workers," she explains,

> We were making the leap from a field they understood and positioning them at the level of a designer with a global consciousness. They presented their work and received feedback from architects and designers in the city, validating the importance of the work they were doing and pushing them to think beyond their concept of school and classroom. One student has continued to pursue this work and has submitted drawings and models in order to build a one-room

schoolhouse in her community. Others have designed elaborate rainwater catchment systems based on research of various rainwater-harvesting models.

As this project illustrates, interaction and serious work can help students develop their beliefs about others living on opposite sides of the planet and in strikingly different socioeconomic conditions. Cross-cultural collaboration encourages them to challenge stereotypes and recognize that diversity of perspectives enriches their work—and their understanding of themselves as producers of work.

Example 2: Got humor? Examining laughter in the U.S. and Afghanistan

Explorer West School, Seattle, WA
Grade 8

"A cheerful heart is good medicine, but a crushed spirit dries up the bones." This Biblical proverb opens a well-crafted expository essay by Alex, a student from Seattle, on the universal biological benefits of laughter. As he explains, "[laughter] increases the amount of serotonin in your brain, which makes you relax; it also increases the amount of dopamine in your brain, which changes your behavior, making you a happier person, and it helps you maintain a positive outlook on life." Alex addresses the reader directly and colorfully. He argues that a central communicative characteristic of humor is that jokes and comedy are interpreted by the listener, who determines the very outcome of a joke—whether it is funny or not. Context and audience matter greatly in "how jokes work." To elaborate on this point, the essay compares cases of American humor with those of humor in Afghanistan. Alex argues that American humor is "widely determined by observations made by one or multiple people." And it can easily be self-deprecating, as illustrated by the proverb "It is better to be silent and be thought a fool than to speak and remove all doubt."

Humor in Afghanistan has a different structure and social function. "Bidar is a comedian on whom people rely to help them escape from pain and fear," the essay explains. One of his routines is to impersonate someone who is feared, helping people play with their pain. Bidar's popularity in Afghanistan suggests to Alex that his kind of humor works in that particular context. People in Afghanistan use comedy to forget aggression and heal from violence. In addition, before local elections remote villagers use humor to promote themselves.

Alex concludes the essay with a recommendation. To ensure mental and physical well-being, readers are to follow the Taoist monks' tradition of smiling each day. Further, to create a resilient society, he exhorts readers to remember Charlie Chaplin's words: "To truly laugh you must be able to take your pain and play with it."

How does Alex's work demonstrate the capacity to recognize perspectives?

Recognizing and expressing one's own and other's perspectives on an issue and identifying the influences on that perspective.

Alex clearly recognizes that humor operates differently in different cultures, and he considers the perspectives involved. First he comes to see that what he naturally finds funny, jokes that respond to American norms, is only one of many types of humor across the globe. While he does not examine the source of the American preference for observations and self-deprecation, Alex illustrates his point by citing classic American humorists such as Mark Twain, Ambrose Bierce, Gary Larson, and Bill Watterson.

Alex understands that humor in war-torn areas like Afghanistan, which he addresses with utmost respect, operates differently from how it does in other places. There humor is charged with self-preservation and often used as a tool in power struggles. General references to fear, violence, and aggression characterize a form of humor that plays a strong social role. What could be learned from examining humor in these two cultures? Alex's conclusion, urging his readers to smile and find humor in pain, suggests a preliminary attempt to strategically integrate two disparate cultural perspectives.

As in the work of the California-Bangalore shelter project, Alex's work illustrates his developing capacity to view the world from the perspective of a person other than himself—and to understand the context of his own worldview in the process. In so doing, Alex and his peers learn to revise social stereotypes often pervasive in their surroundings (e.g., of the passive and disempowered poor Indian youth or an Afghan population unable to find any happiness in the midst of war). They develop intercultural sensitivity to compare perspectives and understand how they are shaped by context.

Opportunities and challenges in recognizing perspectives

For students preparing for culturally diverse workplaces, further academic study, and civic participation, recognizing perspectives is not an optional skill: it is a fundamental necessity of life in the 21st century. Examples like the ones shared above illustrate the delicate process by which young people develop their beliefs about themselves and others through dialogue and study. The power of these learning experiences lies in stirring students to work through two fundamental challenges to recognizing diverse perspectives: overcoming social stereotypes and developing intercultural understanding.

Social stereotypes are typically unconscious deeply held beliefs. For instance, students may believe that all people in Africa are poor and destitute or that immigrants arrive to a new country to exploit local social services. Students encounter social stereotypes frequently in everyday life. Stereotypes cannot be transformed solely by acquiring general knowledge about world history, economics, cultures, or languages. Students transform social stereotypes by engaging cognitively and emotionally in situations that challenge them—through personal interaction, case studies, and reflection on intercultural experiences. Likewise, learning about other people's values, beliefs, and choices encourages students to develop intercultural awareness—the capacity to understand and relate to diverse worldviews and interact sensitively and competently across cultural contexts.[32] Instead of experiencing difference as a threat, successful learning for intercultural sensitivity

enables students to integrate old and new values, selecting judiciously from each cultural context.[33]

Powerful learning experiences invite students to recalibrate their views by shedding light on the multiplicity of factors (e.g., gender, age, class, ethnicity) that make up individual identity—and the forces shaping them (e.g., cultural, political, economic, historical, environmental). To be successful nurturers of global competence in their students, educators must understand the delicate tensions involved in studying other people's worldviews, reflecting on their own perspectives and offering students ample practice in doing the same—in informed and respectful ways.

An invitation to ponder

I. Consider a few moments in your life in which you came to recognize another person's perspective, or your own. What triggered such recognition? What did you come to understand?

II. Examine the diverse backgrounds that your students bring to class. What can you do to make such variety in perspectives visible? To instill a climate of recognition and respect, and to help students learn about their own perspectives and that of others in your classroom?

III. Consider the content you teach. Are there particular topics that can be enriched by considering different cultural, economic, religious, regional, or disciplinary perspectives? How may you redesign instruction to nurture students' ability to recognize and express perspectives?

CHAPTER V
GLOBALLY COMPETENT STUDENTS COMMUNICATE IDEAS

Audiences and collaborators often differ on the basis of culture, geography, faith, ideology, wealth, and other factors. As such, globally competent students must be able to thoughtfully differentiate among audiences and adapt their behavior accordingly, working together in diverse teams toward a common goal. Because English is, at this historical moment, the world's common language for commerce and communication, globally competent students in the U.S. and elsewhere benefit from being proficient in English—as well as in at least one other language. Proficiency with a variety of media and new technologies is another essential component in communicating ideas globally in the 21st century.

The box below outlines key capacities associated with *communicating ideas*. These capacities are then illustrated by two student examples: the first an effort to repurpose school grounds to grow food for a local shelter in Seattle; the second a project to explore communicative tensions in colonization through contemporary art at the International School of Amsterdam.

Globally competent students are able to communicate ideas in the following ways:

- Recognize and express how diverse audiences may perceive different meanings from the same information and how that impacts communication.
- Listen to and communicate effectively with diverse people, using appropriate verbal and nonverbal behavior, languages, and strategies.
- Select and use appropriate technology and media to communicate with diverse audiences.
- Reflect on how effective communication impacts understanding and collaboration in an interdependent world.

Example 1: "Growing Food for Our Community," a digital story

Bridges to Understanding afterschool program, Aki Kurose Middle School, Seattle, WA
Grade 8

Eighth-grade students at the Aki Kurose Middle School in Seattle have been studying the impact of global food crises on communities around the world—including their own. Through the Bridges to Understanding (BU) afterschool program, students analyzed digital stories by children in India and South Africa, exchanging ideas about rising food prices and community work. Determined to address this global problem by contributing locally, students created two edible gardens at their school. lVegetables were donated to the local food bank, and students produced their own digital story to share.

The digital story and accompanying discussion forum had two purposes. First, it sought to show how school fields could be used to mitigate the global food crisis in local communities. And second, it sought to gather insights from more experienced gardeners online. Understanding that images help diverse audiences see stages in soil preparation and seeding, students used both photographs and text to describe the garden design and document its development. Likewise, student postings were written in both English and Spanish to accommodate speakers of both languages. Below is an excerpt from the story:

We started by planting a cover crop into the beds. A cover crop is a crop that improves and protects the soil on which it is grown. We planted clover and rye in October. These helped improve the quality of the soil during the winter.

We can use the Native American technique of planting the "three sisters," which are beans, corn, and squash, to benefit the food bank in our community.

How do these students demonstrate their capacity to communicate ideas?

Recognizing how diverse audiences may perceive different meanings from the same information.

Students explored the complexity of communicating with diverse audiences by examining first the diversity in their own classrooms. In a school where multiple languages are spoken at home, students created cultural self-portraits that revealed their unique perspectives and values. The portraits included issues that mattered to students both personally and culturally, including their views on food and the food crisis. For these students, appreciating difference within the classroom set the foundation to embrace it globally online. How might others interpret the background image of our school building or the humorous note at the end of that online posting? How might others feel about our story and our (relatively protected) world? Recognizing cultural differences prompted students to communicate with sensitivity.

Once in the forum, a teacher in rural India expressed his appreciation in learning about food banks for the first time. Describing himself as a farmer, he inquired whether there were many farmers in their school. Students seized the opportunity to explain how food banks work and clarify their role as "gardeners":

> A food bank is a community resource for people that don't have enough money or food to support their family. We think we will feel accomplishment when we harvest the food.
>
> We have two raised garden beds behind our school. We don't consider ourselves farmers . . . we are gardeners that do this for fun and for the community.

Students' postings show understanding of online etiquette and communicative norms. They show, in the terms of the definition of global competence, a growing capacity to listen to and communicate effectively with diverse people, using appropriate visual and verbal language. Their writing is informal, agile, and engaging, and each entry closes with a question inviting readers to participate. The following it an example of one student posting:

> **Bridges afterschool digital storytelling program, USA Seattle, WA 2-09-2010**
> We have made a digital story for all of you to see! It's about us growing crops at our school for the food bank. We hope everyone will see our digital story on our class page.
>
> Do any of you have gardens at your schools?
> If so, what are you growing? What happens to the food you grow?
> If you don't have a school garden, do you grow food at home? Where do you get your food?
>
> Do you have any special kind of techniques for planting or gardening? We learned about "the Three Sisters" - squash, corn and beans - which we might plant this spring.
> :)
> Talk to you soon!

Being aware of their international audience, students agreed not to use common American text messaging norms, understanding that "English may be [the] third or fourth language" of their readers. Extensive use of symbols and shorthand would make their communication ineffective.

Select and use appropriate technology and media to communicate with diverse audiences.

Digital storytelling requires that students simultaneously manage visual, auditory, and textual material—as well as the project's online presence. Each form of communication requires careful attention and responds to particular genres. Photographs are informed by concepts like composition, lighting, and ways to capture emotion and movement. And the final choice of images is selected to convey the message as powerfully as possible to many viewers. The accompanying text, offered at once in English and Spanish, follows a similar selection process. In the end, students' close attention to communicative choices enabled them to participate proficiently in an international conversation—and learn with and about others in the process.

Example 2: Happening: "Put your culture in the box and follow me"

International School of Amsterdam
Grade 10

For the final project of their contemporary music, art, and theater class, students had to create a *happening*—a fleeting artistic event or installation in the school. Their task was to explore the concept of exile in aesthetically interesting and novel ways. Helen, Kyoko, Noah, and Yei Jin's happening examined colonization as a metaphor for forced exile. The group chose to include the audience (teachers, researchers, and special invitees) in their piece, as they "wanted the audience to really get a sense of what colonization might feel like." They dressed in black, faces half covered by masks, and yelled commands at their audience, simultaneously in their four different native languages. Participants were unable to understand what was being said, but strong gestures indicated they were to follow the students through various stations in the happening.

The students intended to elicit from their audience feelings of powerlessness and frustration, to make them feel they really were being "colonized." As pressure for obedience mounted, all attempts at two-way communication broke down and the captive audience began to quietly follow the masked students. Participants were instructed to place their shawls, watches, and a shoe in a box marked "Pre-colonial History Museum," then forced to carry labels with their newly modified names.

How do these students demonstrate their capacity to communicate ideas?

Recognizing how diverse audiences may perceive different meanings from the same information and how that impacts communication.

The students' happening was in essence an examination of how communication works and makes meaning under cultural-political oppression. They demonstrated a sophisticated understanding of how the colonized and their colonizers interpret differently their realities, behavior, and artifacts. The symbolic act of relinquishing personally meaningful everyday objects to a "museum" is just one effective strategy the students used to convey such a clash of interpretations.

Using appropriate verbal and nonverbal behavior, languages, and strategies.

The students demonstrate a capacity to integrate a range of artistic modes of expression to convey their message. "We chose masks to symbolize the difference in cultures. Once we put our masks on we were not really ourselves anymore." Using a cacophony of voices and urgent, authoritarian gestures, they communicate with an audience sensitive to different forms of input. The students relate their work to that of other contemporary artists. They honor, for example, John Cage, who expanded musical expression, and Kara Walker, whose visual work examines the perverse nature of "paternalistic oppression."

Reflecting on how effective communication impacts understanding and collaboration in an interdependent world.

The colonialism happening illustrates the students' exquisite understanding of the role of communication in history and ethics. Their work offers a critique of ethnocentrism, the inability to listen, the failure of respect, and concomitant barriers to genuine cross-cultural cooperation. In an intelligent, reflective move, these students, hailing from different cultural backgrounds, comment on and exploit their own linguistic diversity to advance a common aesthetic goal. Engaging in a rich examination of communication—its limits, pitfalls, and potential for abuse—raises students' awareness of the responsibilities associated with verbal and nonverbal expression in engaging others, near or far.

Opportunities and challenges in communicating ideas with diverse audiences

Teaching students to communicate competently across cultural, socioeconomic, religious, and personal differences requires that instructors create multiple opportunities to practice and

reflect on complex communication. Students must learn to do more than focus on how and what to communicate to another person. They must also examine why, where, when, and to whom to communicate in meaningful ways.[34] In short, students need to be able to communicate at a high level of sophistication. In the United States, for example, the Common Core State Standards highlight the importance viewing "writing as a key means of asserting and defending claims, showing what they know about a subject, and conveying what they have experienced, imagined, thought, and felt . . . tak[ing] task, purpose, and audience into careful consideration, choosing words, information, structures and formats deliberately."[35]

Beyond language, disciplines such as mathematics, the arts, history, geography, science, and health provide important tools (linguistic, graphic, gestural, technological) to persuade, debate, contest, narrate, describe, and build consensus among individuals who experience the world in different ways. Reflective communication activities like the examples described above help students to not only understand the context of communication (communicators' perspectives, intentionality, constraints), but also to develop communicative sensitivity.

Expressions that seem rather transparent and self-evident to them, for example, may prove ambiguous or obscure to others who interpret them with a different frame of mind. Likewise, comparisons across languages and contexts may help students understand that people in different cultures communicate differently not simply because they use different words, but also because they share different norms. For instance, a student may come to appreciate that people have different levels of comfort with disagreement, that turn-taking in a conversation works in a different way in another context, or that personal sharing of emotions and experiences is more or less common in different social groups. These sophisticated communicators are able to translate communicative styles and adapt their own behavior to be more effective in their communicative intent. Most importantly these students do not assess others' communicative styles against the standards of their own cultural patterns. Rather they bring a pluralistic and respectful attitude to their interactions, recognizing difference as a matter of fact.

An invitation to ponder

I. Consider individuals you know. Can you identify a few who, to your mind, model the capacity to communicate with diverse audiences? What do they do to be effective? How valuable is this capacity?

II. Pay close attention to the forms of communication that are typically used in your classroom. Do you use multiple media? Are statements typically categorical and definitive, or do they invite productive pondering and dialogue?

III. Consider the content you teach. Are there particular topics that might lend themselves to communication with diverse audiences? How may reflecting on communication enrich students' understanding of the topics under study?

CHAPTER VI
GLOBALLY COMPETENT STUDENTS TAKE ACTION

Globally competent students do more than collect knowledge about the world: they seek to make a difference in the world. Furthermore, they do not postpone their contributions for "when I grow up."[36] Rather they see and create opportunities to act today—in their neighborhood or on the global stage. Alone or in collaboration, ethically and creatively, globally competent students envision and weigh options for action based on evidence and insight. They can assess the potential impact of their plans, taking into account varied perspectives and potential consequences for others. And they demonstrate courage—in acting and in reflecting on their actions.

The box below outlines key capacities associated with *taking action*. The chapter then turns to three examples of student work to examine the challenges and opportunities students encounter when taking action. The first, by a fourth-grade student in Britain, is an essay on the children of political refugees, which received a young journalist award. The second features the work of ninth-grade students in Buenos Aires seeking to preserve pre-Columbian musical traditions put at risk by globalization. And the third showcases the work of public high school seniors in San Antonio, arguing for an immediate solution to the water contamination crisis in Thailand.

Globally competent students are able to take action in the following ways:

- Identify and create opportunities for personal or collaborative action to address situations, events, issues, or phenomena in ways that improve conditions.
- Assess options and plan actions based on evidence and the potential for impact, taking into account previous approaches, varied perspectives, and potential consequences.
- Act, personally or collaboratively, in creative and ethical ways to contribute to improvement locally, regionally, or globally and assess the impact of the actions taken.
- Reflect on their capacity to advocate for and contribute to improvement locally, regionally, or globally.

Example 1: "Is This Nazi Germany?"

Amnesty International/Drayton Park Primary School, London, England
Grade 4

Florence is 11 years old. She has a strong interest in World War II, triggered by the books of such writers as Morris Gleitzman and Michael Morpurgo, as well as the diary of Anne Frank. When she learned about a competition run by Amnesty International and *The Guardian* newspaper calling for a report on human rights, she remembered a conversation she had recently had at home. Florence and her parents were talking about human rights, and the conversation turned to the topic of detention centers in the U.K. A study had recently shown the harmful and long-lasting psychological and physical impacts on the children of refugees forced into detention centers. Prompted by her desire to raise awareness about the issue, Florence began conducting her own research. Her findings are captured in an essay, "Is This Nazi Germany?" which won the upper primary category of Amnesty International's Young Human Rights Reporter of the Year 2010.

IS THIS NAZI GERMANY?

She wakes, as eight men in dark uniforms barge through her front door. Her mother screams, but she stays riveted to the spot, shaking uncontrollably. The men hand her mother some paper and ignore her screams of outrage.

The men search the house. It is turned upside down. Abruptly, they are both frogmarched to the back of a van. They don't know where they are going or how long they will remain in this dark, enclosed space.

This is not Nazi Germany; this is September 2009 in Leeds. Bethlehem Abate is 11 years old and has escaped with her mother from Ethiopia, where she was abused by her father. If she returns to Ethiopia, she will be separated from her mother, who is Eritrean. She will have no one to care for her. Her mother will be put in detention or even killed by the authorities.

Yarl's Wood is situated in Bedfordshire; it is a detention centre for asylum seekers. Each year there is an intake of 1,000 children. It is not a place for children. No child should be deprived of their education and freedom in this way.

As Bethlehem entered Yarl's Wood, she said, "It was like going into prison, for doing an awful crime."

"I thought the British government would understand our situation and help us."

Bethlehem and her mother have now been granted the right to remain in this country. They look back at their time in Yarl's Wood with horror. Many others are not so fortunate. . . .

How does this student's essay demonstrate her capacity to take action?

Identifying and creating opportunities for action to address situations in ways that improve conditions.

Reading about children's experiences in detention centers disturbed Florence: "I was so worried to learn about so many children that were in detention centers and had no proper education, no proper childhood." Encouraged by her parents and teachers, Florence decided the essay contest was a good opportunity to write about the topic. She explains,

> Before we talked about it, I had no idea that human rights violations were happening in England. Before we talked I always thought that human rights violations were things that happened in India or Africa and I had no idea they were happening here. It was horrible.

In her view, the essay would help "raise awareness about children in detention centers. No child should suffer this appalling lack of education and lack of freedom." Florence decided that focusing on a girl of about her age would be an effective narrative technique, highlighting the contrast between her safe and comfortable life and that of her subject. Florence's essay seeks to build on the tradition of girls from the past she admires, like Anne Frank.

Acting collaboratively in creative and ethical ways to contribute to improvement.

The recognition for her essay led Florence to think about doing even more for the sake of refugee children. She joined a young campaigners' group at Amnesty International working to increase public awareness in the U.K., where the government is deciding to abolish child detention, granting children of refugees legal status upon arrival. Florence adds,

> I am really hoping that I can make a difference. Many campaigners are working to make detention centers better. I understand that we may have to have detention centers but you don't have to call them such horrible names, you don't have to torture people there—not physical torture but psychological torture. You don't have to put them through such a horrible and very destructive experience that has a big impact on people's lives . . . leaving them scarred for life.

Reflecting on her capacity to advocate for and contribute to improvement.

Asked whether she, as a child, can indeed make a difference, Florence replies with hope that she can contribute to the work many others are doing. Grateful for all the support she has received, she understands the key role played by her family and those teachers who encouraged her to voice her opinion. She enjoys the feeling of having found a cause that matters to her: abolishing child detention and knowing that "whatever happens, you stood up for something you believed in."

Example 2: Sofia's sikus

International Baccalaureate: St. George School, Buenos Aires, Argentina
Grade 9

Sofia was puzzled over her music teacher's assertion that globalization is increasing the homogenization of music heard by youth, and, as a result, traditional pre-Columbian rhythms, cultures, and artifacts from the Andes region are disappearing. How can these traditions be preserved? To address this problem, Sofia's class conducted an in-depth study of Andean musical, artistic, and cultural heritage. After weighing options, the class decided to create a sustainable initiative to promote the survival of pre-Columbian artifacts and music, which Sofia documents in her final report.

The class built a series of *sikus* (traditional Andean flutes) with recycled materials. Carefully designed to produce tones on a pentatonic scale, the *sikus* were made of recycled paper and illustrated with carefully selected and stylized traditional Andean art motifs. To further help preserve this cultural tradition, Sofia's class proceeded to teach the migrant children in a very poor neighborhood school how to produce, decorate, and play sustainable *sikus* themselves. Visibly proud of her class' accomplishment, Sofia comments that among the kids in the barrio, "autochthonous music is more socially accepted as a form of cultural expression." She concludes her report with a hopeful observation: projects like the one her class conducted involve "a new phase in a process that goes from discrimination, racism, and intolerance to acceptance, admiration, respect, and inclusion of all inhabitants in our cities, their practices, and cultural expressions."

How do Sofia and her peers demonstrate their capacity to take action?

Identifying and creating opportunities to address an issue in ways that improve conditions; assessing options and planning actions based on evidence and the potential for impact.

Sofia's global competence begins with her genuine concern about the loss of her cultural heritage in the face of globalization. Excitement about the opportunity to contribute keeps her engaged throughout the project: she knows she can make a difference. In tackling the problem, Sofia, her teachers, and her peers considered several possible courses of action—organizing a school concert, writing an article for the school newspaper. They finally decided that a multiweek interdisciplinary unit on art history and sustainable instrument design promised the longest-lasting impact, especially if the work could be shared with children whose families were direct descendants of Andean populations.

Acting collaboratively, in creative and ethical ways, to contribute to improvement and reflecting on their capacity to act.

Developing functional *sikus* required the participation of most students in the class. Some students tested and budgeted materials, others led the collection of recycled paper, others prepared to perform for the barrio children, and still others researched traditional melodies to play. Students demonstrate global competence and the capacity to act when they can organize multiple actors around a common goal. Sofia's report reflects on the class's success in creating working *sikus* (itself not a minor challenge) and learning how to play the instrument. Finally, her reflections note that working with children proved to be the most challenging aspect of the project:

> Standing in front of children who were almost my age and did not seem interested in the project in the beginning was difficult. Fortunately the children changed their attitude in the process. I was able to meet with a few and teach them how to make *sikus* so that they would keep the music alive. I am confident that the children were engaged and planned to create *sikus* of their own. We even left the materials for them to work with. Now whether or not our project overall will be successful . . . only time will tell.

Example 3: Water collection, infrastructure and education initiative

International Studies Schools Network International School of the Americas
Grade 12

Students in Susanna Pierce's macroeconomics class are presenting their development proposals to a panel of teachers, school administrators, and students. Their teacher had set the challenge a few weeks before:

> The World Bank is giving the United Nations extra money to help to increase the effectiveness of the Millennium Development Goals. Your group is a part of a Non-Governmental Organization that hopes to receive a subsidy to

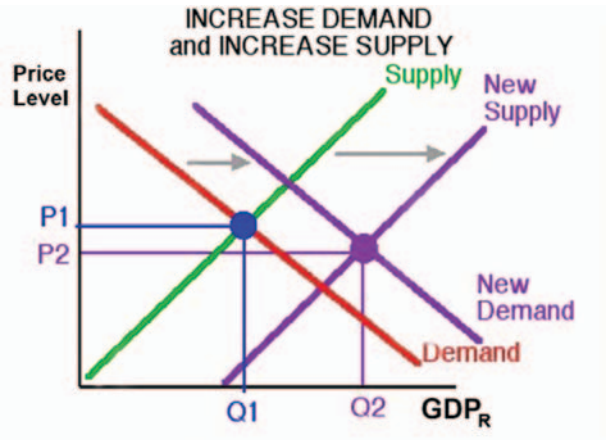
implement a project that would help to stimulate economic growth by targeting a particular problem evident in a developing country. Create a proposal that would demonstrate why your organization's project would create economic growth in a particular country. Explain the gravity of the problem and the effects your development project would have on this country using at least two economic models.

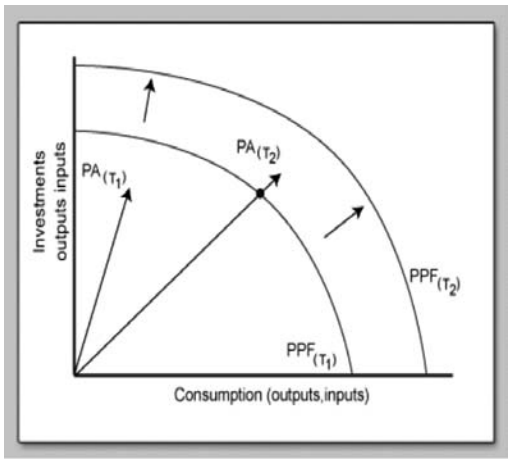
Five students chose to seek solutions to the water pollution crisis in Thailand. To contextualize the problem, they share basic indicators of the country's economic development (e.g., GDP per capita, urbanization, unemployment, literacy) and describe seasonal changes to water availability in various regions. They share a brief economic history of the country and describe Thai culture as one of Buddhism-inspired "forgive and forget."

Students introduce the water crisis in stark terms, pointing to evidence such as the following:

> One third of the [available fresh] water is unsuitable for human consumption. High levels of water pollution exist in many rivers, lakes and the surrounding ocean. Heavy metals such as arsenic and lead [are commonly found] in the water. Drought vulnerability is high in the Northeast. More than 100,000 [annual] hospitalizations are due to waterborne diseases and only 29% of the population can be supported by the current quantity of filtered water.

The students' proposal is aimed at "[p]roviding reliable infrastructure to store, filter, and distribute potable water to the 7,000 people in the area as well as educating citizens about the importance of clean water and how to access it." Their intervention is designed for Ban Lao Kwang, in the Phitsanoluk Province, at a total cost of $1.5 million. Their presentation includes a detailed budget and an outline of the expected impact of the project not only on water availability but also on economic growth. In the short term they expect a drop of local unemployment and a slight increase in GDP due to an increase in demand of materials. In the long term they predict increases in agricultural productivity and human development indicators. They also expect educated people from the surrounding areas to improve water conditions. Students explain two economic models for their predictions:





How does this work demonstrate their capacity to take action?

Assessing options and planning actions based on evidence and potential impact.

The assignment created a sense of urgency in students—they had to identify a problem worth addressing. Drawing from their detailed study of the region, understanding of development options, and knowledge of macroeconomics, the students were able to conceive solutions and predict implications. Their solutions were directly informed by a review of other water-related initiatives led by Oxfam, Water First, and UNICEF, whom they propose as funders of their project.

The project has proven to be of long-lasting benefit to the students and their sense of themselves as agents of change. The following spring during a visit to the World Bank in Washington, DC, they found opportunities to share their ideas with experts and ask questions about the bank's Millennium Development Goal development strategies. Their teacher describes the visit as follows:

> The visit to the World Bank [showed that] students retained the information they learned and were intently passionate about learning more in the area of international development. They quickly responded to questions [by the bank's representatives] about strategies to stimulate development in various countries. The presenter was impressed with the knowledge my students had over international development and their ideas on the pathways to help achieve the MDGs. . . . Students commented that this visit to the bank was their most impacting experience during our trip to Washington, DC, as they were finally able to see how their skills gained from our course could be applied to make a positive change in the world. Several students approached me saying, "I want to do an internship here during college."

The opportunity to create and assess solutions to a pressing humanitarian problem meant much more to these students than simply completing a school task. It prompted them to begin viewing themselves as global citizens.

Opportunities and challenges in translating ideas and findings into appropriate actions

Taking action on matters of global significance enriches schools by incorporating a range of authentic real-world experiences. In so doing, it capitalizes on contemporary youth's desire to participate. As their understanding of citizenship expands, students see that they can be vocal participants in world events, with the power to influence opinions and contribute to improvements. Investigating issues and knowledge in school is not merely a step toward succeeding on an upcoming test, or acquiring facts useful in college and later in life. By taking action on matters of global significance, students are encouraged to overcome cultural bias and view themselves as present—not just future—citizens.

An invitation to ponder

I. Consider your own concentric spheres of action—family, community, nation, globe. Are there specific actions that you could take to improve conditions in each sphere?

II. How competent are your students in entrepreneurial and collaborative project design? What do they need to learn to be ready for college, work, and the world?

III. Consider the content you teach. Are there particular topics that lend themselves naturally to creating opportunities for global action?

CHAPTER VII
TEACHING FOR GLOBAL COMPETENCE

The previous chapters examine the four core dimensions of global competence, offering examples of student work drawn from both formal and informal education environments—from an urban Seattle classroom to a learning center for the poor in Bangalore. Across a diversity of contexts and disciplines one thing is a constant: globally competent students are mentored by teachers skilled at preparing young minds to understand and act on matters of global significance. So just what does quality teaching for global competence look like? How can teachers design instruction to foster global competence among their students? This chapter begins to address these questions.

Four perennial questions of teaching should be kept in mind while designing instruction for global competence:

1. What topics matter most to teach?
2. What exactly will students take away from a unit, project, visit, or course?
3. What will students do to learn?
4. How will we know they are making progress?

David Perkins, a cognition and instruction expert, calls these "Pandora questions": they appear simple on the surface but can lead to intricate and fascinating reflection once we seek to answer them.[37] To begin to address them, this chapter introduces a series of instructional design principles to foster global competence among students. These principles do not tell educators exactly what or how to teach. Rather they are offered as considerations for educators to keep in mind while navigating the "Pandora questions" above with a focus on global competence. In a nutshell, this chapter proposes that quality instruction for global competence requires teachers to

- Identify engaging topics of local and global significance.
- Focus on global competence outcomes.
- Design performances of global competence.
- Employ ongoing global competence–centered assessments.

These recommendations are informed by empirical research on disciplinary and interdisciplinary instruction at Harvard Project Zero[38] and by a review of pedagogical principles embodied in the work of institutions that lead in promoting global education (including, for example, the Asia Society, the International Baccalaureate, Facing History and Ourselves, and Oxfam).[39] The principles here proposed stand as general recommendations and as an invitation to reflect.

The following section begins with an example of teaching for global competence: an overview of a unit on earth sciences and global climate change. This example is then used to introduce a framework for teaching for global competence. The chapter closes with a reflection on the demands and opportunities around teaching for global competence in the 21st century.

Teaching for global competence: Rita Chang's earth science classroom

> Earth Science is AWESOME! Earth scientists love discovering, being curious, exploring, and enjoying the challenge (and process) of figuring things (the Earth) out. You need a good imagination too, because you have to imagine where the clues might be, then find the clues, and then figure out what the clues mean. We use our "knowns" to confront the "unknowns" through investigations and a science way of thinking. Sometimes we have to revise our so-called "knowns" because we didn't get it right, or we had it only partially right, or we missed something but the goal in science is always a deeper understanding. . . . Our planet is a dynamic, ever changing place. We will try to fathom the forces at work on Earth so we can better understand, appreciate and care for our planet, our fellow living things, and the planetary systems that sustain life.

Rita Chang teaches ninth-grade Earth System and Planetary Sciences at Wellesley High School, a public school in Massachusetts. In this course students learn to think of the earth both as a body in dynamic interaction with other bodies in the universe, and as a system in which various forces are in dynamic interaction. They examine, for instance, the constant circulation of water through the earth's hydrosphere, geosphere, biosphere, and atmosphere. Students are expected to understand how the water cycle works and interacts with biogeochemical cycles such as carbon, oxygen, and nitrogen to produce changes in the earth's planetary system.

The course's final unit invites students to apply their understanding of the earth system to the complex phenomenon of climate change. Students learn about the past causes of climate change, the available evidence, changes being observed today, the driving forces, time frames, future projections, and pending questions. What makes the earth switch from a hot house to an ice age? Over what period of time does such a change occur? How are changes today similar to and different from changes in the past? How may we mitigate global warming? These are the kinds of questions examined by students during the climate change unit.

> **In this course students examine forces that create ice sheets at the poles and glaciers in the high tropics, propel the Gulf Stream, and drive the Jet Stream. Forces that raise and lower sea level or pump water vapor into the atmosphere, and force earth's climate to rock between extremes, at times hot enough for crocodiles in Greenland, and at other times, cold enough to plunge Earth into an ice age.**
>
> **Rita Chang**

Teaching for global competence: Principles and practices

Educators committed to delivering quality instruction that prepares students effectively to understand and act on issues of global significance tend to think carefully about how to ensure that their instruction yields deep understanding. What are the qualities of effective instruction? The "Pandora questions" introduced earlier in this chapter offer a good framework for considering how to teach global competence.

1. What topics are most important to teach when educating for global competence?

Topics of local and global significance

The simple answer is that educators should teach engaging topics of local and global significance. Of course this answer only raises further questions. What is the best way to think about local-global connections? Or to discern the significance of a topic? Defining the topics that students should learn in a course or a project can be challenging. There is so much to learn about the world today, and constraints on time and resources make decisions about what to

teach ever more crucial and challenging. Four qualities can be considered in selecting powerful topics to teach for global competence: deep engagement, clear local and global connections, visible global significance, and robust disciplinary and interdisciplinary grounding.

Crafting topics that generate deep engagement.

The most powerful topics are considered meaningful by students, relating to the students' world. Ideally, such topics are equally exciting to teachers. When considering a topic teachers may ponder the following questions: How does this topic connect to the reality of my students' lives and interests? Am I passionate about the topic myself? If so, why? Are there better ways to frame this topic to make it truly engaging for my students?

Crafting topics with clear local-global connections.

There are a great variety of connections to be made between local and global dimensions of an issue. Themes common to all of humanity may allow students to explore cultural variations on a theme (e.g., language, motherhood, friendship). Other units may consider global explanations of local phenomena (e.g., examining why gas prices rise in the U.S. when there is a political crisis in the Middle East). In still others teachers may focus on differences and similarities in how an issue affects two or more locations (e.g., the impact of climate change on coastal and noncoastal cities) or on the impact of global policy on local issues (e.g., international agreements to protect environments). When framing a topic for exploration with students, teachers may ask the following questions: In what ways are local and global dynamics addressed by this topic? How may a deep examination of this topic enable my students to understand broad global patterns and their relationship to local realities?

Crafting topics with visible global significance.

To be worth teaching, strong topics for global competence instruction must survive the test of significance. Why is a topic worth learning? Topics can be deemed significant on multiple grounds: breadth, uniqueness, immediacy, consequence, urgency, ethical implications. Some topics matter because they affect a large number of people on the planet (e.g., climate change). Others may be significant because they demand urgent global solutions (e.g., girls' rights to education, global health and security) or because they directly affect students' lives (e.g., migration in local neighborhoods). Clarity about why a topic matters underlies all quality instruction.

Crafting topics with robust disciplinary and interdisciplinary grounding.

A final, and crucial, consideration in crafting topics to teach for global competence involves the degree to which the topics invite genuine disciplinary or interdisciplinary exploration. Disciplinary knowledge and skill are necessary to interpret situations and create solutions. Strong topics are not framed as facts to be memorized (e.g., What are the top traditional foods in Mexico and Ethiopia?). Rather they introduce problems and complexities for students to wrestle with (e.g., How do regional landscapes influence food traditions in Mexico and Ethiopia?). A strong topic is framed as to demand expertise in more than one subject, requiring that knowledge from multiple disciplines be synthesized to address the issue.

1. What topics matter most when educating for global competence? Globally significant topics demonstrate the following qualities:
    - **deep engagement**
    - **clear local and global connections**
    - **visible global significance**
    - **robust disciplinary and interdisciplinary grounding**

Topics of local-global significance in Rita Chang's classroom

In Rita Chang's science class students apply their understanding of earth systems and planetary change to a problem of visible global significance—climate change. Students explore a number of questions: How do sun and earth systems interact to drive earth's climate system? What do we know about natural and manmade causes of climate change, past and present? How can we interpret the latest evidence of global climate change and the effects being observed around the planet? What are the major climate-related concerns, unknowns, and opportunities for the future in different regions?

Chang's framing of climate change exemplifies an engaging topic of local and global significance. The topic appeals to students interested in environmental preservation as well as cutting-edge science and public debate around the issue. Some students see the topic as an opportunity to use science for a larger social good. The unit engages students in a problem that most students in the class deem relevant to their future—one that, some insist, demands urgent solutions [**deep engagement**].

The unit's open-ended questions encourage disciplinary exploration. Scientific concepts of chemistry, physics, geology, and astronomy will be needed, as will the ability to interpret scientific evidence and maintain the kind of healthy skepticism that strengthens scientific claims [**disciplinary grounding**]. Furthermore, the topic invites students to connect global physical and chemical processes to the local effects of climate change. For example, students study the melting of glaciers at high altitudes, which affects the summer water supply in places like Bolivia and California, and possibly the frequency and intensity of hurricanes in the Atlantic and South Pacific. Students complete the unit with a deep understanding of the earth as an integrated global system with local implications [**local-global connection**].

Finally, a scientific understanding of climate change prepares students to make sense of the powerful forces transforming environments and societies alike. From the impact of water availability on population displacements to expanding tropical disease vectors to the human cost of extreme weather events, the significance of climate change cannot be overstated [**global significance**].

In identifying topics that matter, teachers may review the content of a given course. Characteristically, teachers work with a curriculum that outlines core school or state standards and expectations for students in a given grade. Effective teachers examine such curricula looking for opportunities to make meaningful global connections. A history unit may place the American Revolution in the context of other contemporary developments around the world, shedding light on mutual influences. A unit on habitats may invite students to compare the delicate balance of life at the local pond to other habitats around the world. By incorporating a global dimension into their curricula, teachers can enrich students' understanding of the world and their local realities at once.

2. What exactly will students take away from a unit, project, visit, or course?

Disciplinary global competence goals

Experienced educators recognize that deep understanding is best achieved through efforts focused on clear and manageable learning goals. These goals highlight the most important concepts, skills, and processes that students will learn, creating a direction for learning. They also set the standards against which progress will be assessed. Clarity about what exactly students should take away from their time on a unit or project enables teachers to use time strategically for deeper learning.

Effective learning goals in quality global education focus on students' capacity to use knowledge and skills to explain phenomena, craft products, find solutions, raise new questions, and appreciate innovations. Learning goals focus on global competences such as investigating the world, recognizing perspectives, communicating ideas, and taking action deliberately. When crafting learning goals teachers may ask the following questions: What are the most important disciplinary knowledge (e.g., concepts, facts, theories) and skills (e.g., methods, tools, techniques) that will enable my students to make sense of the topic under study? What global competences matter most to engage this topic in a meaningful way? How can I make the learning goals in this project clear to my students? As these questions suggest, strong learning goals for global competence have the following qualities: they capture important knowledge and skills in one or more disciplines, focus on global competence, and are clearly shared with students.

Crafting learning goals that capture important knowledge and skills in one or more disciplines.

Teaching for global competence means taking curriculum content, usually set forth in learning standards, and using it to examine broader global issues. For example, a unit in economics may seek to help students understand GDP and how it is calculated, while one in biology may focus on photosynthesis and respiration and their role in air purification. When teaching for global competence, instructors may ask students to use the concept of GDP to compare economic growth in China and the U.S. Other students may apply their knowledge of the carbon cycle to explain the role that forests play in mitigating global warming.

Quite often students learning to become globally competent are introduced to ideas or skills that do not neatly fit within one traditional discipline—for instance, approaches to conflict resolution, cultural diversity, interdependence, security, and social justice. Such constructs are explored through multiple disciplines and are likely to play a key role in students' substantive understanding of topics of local and global significance.

Examples of global competence–centered learning goals:

Students will understand the significance of the American and the French revolutions for colonial territories in two or more continents [history, investigate the world].

Students will appreciate how the rising sea level is affecting distinct coastal communities differently [geography, recognize perspectives].

Students will become able to employ new digital media to teach their peers in Kenya and India how to build an organic garden [biology, communicate ideas].

Students will understand the nature of conflict resolution and how to develop a fundraising campaign to support an urban youth program in Bogota and their own city [conflict resolution, take action].

Crafting learning goals that focus on relevant global competences.

Rich topics are best explored through specific global competence repertoires. For example, a project on HIV/AIDS in Mombasa may call upon a student's capacity to *investigate the world* and *recognize perspectives*, whereas a project on digital storytelling may primarily demand that students learn to *communicate ideas with diverse audiences*. A grassroots project teaching local children about pre-Columbian cultures can spur students to *take action*. In crafting learning goals teachers may want to reflect on which aspects of global competence matter most in a given unit, revisiting the global competence matrices included in the appendices.

Learning goals are clearly shared with students.

Quality instructional design places global competence visibly at the center of teacher and student efforts in a given unit, project, or course. Each unit states only a few key goals, which are explicitly shared with students. Key learning expectations are posted on classroom walls and used in student assignment sheets and class reflections. They are also shared with parents, members of the school community, and other stakeholders supporting student development.

2. What exactly will students take away from a unit? Disciplinary global competence goals demonstrate the following qualities:
    - **capture important knowledge and skills in one or more disciplines**
    - **focus on relevant global competence**
    - **are clearly shared with students**

Focusing learning goals in Rita Chang's classroom

With an emphasis on scientific inquiry, Rita Chang's course invites students to learn about the work of scientists helping humans understand the planet. Students learn how sciences like biology, chemistry, and physics come together in the earth science. Students are further encouraged to employ scientific reasoning habits developed in the course. For example, throughout the year they have become accustomed to seeking out scientists' accounts of phenomena they observe by watching video interviews and interacting with visiting scientists in class, contacting scientists directly, and reading the writings of scientists in *Scientific American*, *National Geographic*, *Science News*, *Astronomy Magazine*, and other publications. Chang's learning goals for her students can be summarized as follows:

1. **How the earth's spheres and systems interact to influence the climate.**

   Key concepts: geosphere, biosphere, atmospheric chemistry, hydrosphere, the water and carbon cycle, surface processes (like weathering), astronomical forces (sun, orbit, and meteor impacts)

2. **How scientists gather and interpret evidence of changing planetary temperatures past and present and what conclusions they can reach.**

   Key ideas: evidence in areas like biology, chemistry, physics, paleo-climatology, scientific method, experiments, available data from locations (especially the poles and high-altitude and coastal regions)

3. **How to evaluate and promote solutions and policies to mitigate climate change.**

   Key ideas: considering the impact of alternative energy sources, nuclear energy, green technologies, environmental architecture carbon sequestration, burial of carbon in ultramafic rock, and creation of fuels from microbes

These learning goals exemplify quality instruction for global competence in that they put a premium on *scientific* understanding of the earth's climatic variations, considering both concepts and modes of inquiry. The unit seeks to nurture students' global competence by inviting them to investigate the planet, its regional variations, and people's relationship to it in scientifically informed ways. Learning goals are discussed with students from the beginning of the course and students are expected to take responsibility for their learning. Chang's goals simultaneously meet the state's standards, the school's expectations, and the criteria for quality global competence instruction.

3. What will students do?

Performances of global understanding

In quality instruction for global competence, teachers design learning experiences that invite students to think with and apply concepts, methods, and tools from one or more disciplines

to make sense of an issue of global significance.[40] This chapter proposes that such learning experiences be called *performances of global competence*, because they enable students at once to build and demonstrate their developing capacity to understand and act on matters of global significance.

Performances of global competence need not be staged final exhibitions, as one would see in a theater or at a show. Rather, as here defined, they involve using knowledge and skills to examine or act on a global matter. Such performances can take place at the beginning, middle, or end of a unit. They can range from conducting a thought experiment to crafting an argument or producing a critique to comparing data or creating a work of art. In all cases, performances of global understanding advance and reveal students' competence, inviting further guidance. Educating for global competence invites teachers to engage in the creative task of designing assignments that embody such potent performances for their students. Carefully designed performances demonstrate the following five capacities: involve using knowledge and skill in and across disciplines in novel situations; focus on targeted global competences in a unit or project; connect students' local experience to the world; engage students cognitively, socially, and emotionally; and invite a personal synthesis.

Using knowledge and skill in and across disciplines in novel situations.

Students can acquire knowledge from lectures, books, videos, websites, and other outlets. Yet without chances to apply such knowledge in increasingly challenging situations under the guidance of a teacher, they will develop neither deep understanding of the world nor global competence. Having information about the world is necessary but not sufficient for global competence. Performances of global competence are activities that give students the opportunity to apply concepts, methods, and ideas from one or more disciplines to novel situations. They may include identifying key qualities of a region's literary styles, creating a graphic of causes and consequences of outsourcing, writing a reaction to a newspaper article on the role of private business on economic growth, applying biological knowledge about HIV/AIDS to create a survey, or participating in a discussion on the right to shelter employing data on homeless people from Bangalore and North America. What is common across these performances is that they cannot be successfully accomplished without grounding in one or more disciplines.

Focusing on targeted global competences.

Quality instructional designs show a clear alignment between the global competences that students are expected to develop in a unit and the performances that will foster such competences. Because time and resources are so often limited, it is crucial that educators weigh how various performance options each contribute to advancing students' targeted global competences. Students participating in activities not connected with the global competence expectations of a course are less likely to meet expectations, no matter how engaging such activities are.

Consider the following example: English and Spanish teachers are designing a unit to help students understand the influence that culture and personal experience may have on the

work of certain Latin American authors. They brainstorm performances of global competence that can encourage students to *recognize global perspectives*—a targeted competence for this unit. The teachers must evaluate two possible assignments: the first inviting students to write a reflection comparing influences across various Latin American writers and reflecting on potential influences to their respective literary styles; the second having students organize a class Latin American poetry slam like a very successful one they did in years past. Upon consideration teachers opt for the first candidate because it is better aligned with their global competence goal: to help students understand how cultural influences shape literary work among selected poets in Latin America.

Connecting students' local experience to the world.

Powerful units or projects to nurture global competence tend to begin where students are. Initial activities unearth students' prior knowledge by encouraging them to pose their own questions, voice their interests, examine their values, and identify their assumptions and ideas about the matters of global significance under study. For example, a preschool unit on global communication begins by inviting students to brainstorm ways to send a letter to their friend in Washington, DC. A high school unit on outsourcing begins by having students look at where the objects they own were produced (T-shirts, shoes, backpacks, electronics, dishes, etc.). Beginning with their personal interests, experiences, and contexts enables students to see the relevance of global issues in their own lives. In so doing, they begin to understand how local experiences can impact, and be impacted by, affairs taking place elsewhere. Successful instruction enables students to become sensitive to and curious about the local-global connections around them.

Engaging students cognitively, socially, and emotionally.

Potent performances of global competence engage students in cognitively demanding tasks, applying disciplinary constructs to novel situations, and engaging in practices such as conducting inquiries and explaining perspectives. Likewise, successful performances of global understanding often demand social interaction, perhaps calling for working in teams to craft a product, finding information through face-to-face interviews, exchanging views with peers living in very different contexts from their own, engaging in debates, enlisting others' help and support, and participating in community service projects. Furthermore, social and cognitive engagement—with issues that are both globally significant and part of students' daily lives—produces emotional engagement as well. Students meet global issues with feelings of excitement, joy, compassion, fear, sadness, anger—emotions that ultimately shape their learning.

It is not uncommon, for instance, for students learning about complex topics like climate change, extreme poverty, and disease epidemics to encounter feelings of anguish or despair. The magnitude of these issues may make them feel rather impotent. But such feelings are often followed by the conviction to take action. Experienced global educators must enable students to work through their feelings of impotence, anger, or fear constructively. For example, they may invite students to articulate their perspectives on the issue and propose

solutions to raise awareness among their classmates, or to contribute to improving conditions. These activities foster global competence and encourage students to recognize their active membership in a world that extends beyond their immediate environment.[41]

Inviting personal synthesis.

Quality learning designs often conclude with performances that bring students to a personal synthesis. Performances of global competence may include articulating a personal position in an essay or preparing a final research report. Or perhaps teachers will ask students to revisit their journal entries written at the beginning of a unit and identify shifts in thought and orientation. As suggested above, students often have an opportunity to synthesize their learning by creating a product; solving a problem; or putting together a campaign, presentation, video, or action project designed to improve conditions. In quality final performances of global understanding, student projects are directly informed by what they have learned.

3. What will students do? Students engage in performances of global competence, activities that do the following:
    - **use disciplinary and interdisciplinary knowledge and skill in novel situations**
    - **focus on targeted global competences in a unit**
    - **connect students' local experiences with the world**
    - **engage students cognitively, socially, and emotionally**
    - **invite a personal synthesis**

Performances of global competence in Rita Chang's earth science classroom

Students in Rita Chang's class engage in increasingly independent small-scale investigations of climate data from around the world, using knowledge obtained in various disciplines. Performances in this unit focus primarily on students' inquiry beyond their local environments.

Investigating climate change.

Students begin the unit by examining accounts of the changing climate in multiple world regions. Materials range from scientists' video accounts of changes in the Greenland ice sheet to evidence from ice cores in areas of Africa and South America. Students discuss these events and more as a class, hypothesizing how earth system dynamics they have learned about may be involved and brainstorming possible consequences for local

populations. Monitoring earth science–related events around the globe is standard practice in Rita Chang's classroom. Since the beginning of the year students have been tracking weekly news on a scientific reporting website—a volcanic eruption in Iceland, cyclone alerts in the South Pacific, rising skin cancer incidence in New Zealand, and outbreaks of malaria and the West Nile Virus are all indicated in the graphic below:

Earth Week. A Diary of the Planet
www.earthweek.com

Learning to inquire scientifically about planetary changes is a central goal of the course and this unit in particular. To understand how we know about climatic changes in the past and in the present, students examine the work of paleo-climatologists and engage with current data on sea ice melting. Toward the end of the unit students in the earth science honors class conduct an independent inquiry project on a local-global planetary change of their choice. They must craft a researchable question, argue for its significance, and identify a database to use in conducting their analysis. Examples of questions include the following: Have precipitation patterns changed around the world (choosing three locations)? Is the spring arriving earlier in the Northern U.S.? Have there been changes in the frequency and intensity of hurricanes? Students must advance their hypotheses and explain their choice to analyze specific data sets from particular regions of the world. In their papers they must describe and justify their procedures, present their data and analysis clearly, and include a reflective conclusion and a bibliography with strong, reputable sources.

Taking action.

> "It is not enough to teach ninth grade students about earth systems or the causes and consequences of climate change. These kids will want to do something to preserve the earth's balance—they will want to participate." –Rita

As the unit unfolds, students often develop a desire to participate in mitigating and adapting to climate change. To meet this urge, the unit concludes with a study of climate solutions, in which students learn about energy consumption and production, evaluating the pros and cons of solutions—alternative energy sources, nuclear power, green technologies, environmental architecture—while considering the impact of each on the earth's natural systems.

One year interested students participated in a video competition designed to raise awareness about particular aspects of climate change and propose solutions. Students produced 5–6 minute videos capturing something important learned about climate dynamics, helping viewers understand how to mitigate further change. The videos, and underlying science, had to make a strong case for the significance of studying climate change around the world through a global earth sciences perspective.

Performances of these kinds allow students to exhibit their developing global competence. Included at the end of this chapter is a checklist for teaching for global competence, as well as a list of example global competence performances for each core competence (see pp. 71-75). Teachers may draw on these examples as starting points to inform their own designs.

4. How will we know students are making progress?

Ongoing global competence–centered assessment

Carefully designed units include performances or learning experiences that invite students to put aspects of global competence into practice. For example, in Rita Chang's unit students use their knowledge to form hypotheses, synthesize various sources to reveal broader truths, use computer-based measuring tools, and report their findings in a short paper. Each of these activities is a clear performance of global competence that both develops and reveals students' capabilities. In this sense they offer authentic opportunities for assessment. How can teachers use these opportunities to further advance students' global competence? Quality instruction for global competence employs assessments with the following four qualities: it is focused on global competence, it is ongoing, it offers informative feedback, and it can be conducted by multiple stakeholders.

Focusing assessment on global competence.

Teachers have multiple goals when assessing student work. These range from gauging work habits and commitment to monitoring depth and understanding. Assessing for global competence demands that, among these various goals, teachers put a premium on global competence. Assessing student work for global competence involves examining it for what it reveals about how students are able to investigate the world through disciplinary and interdisciplinary study, inquire about topics of global significance, recognize perspectives, communicate ideas, and take action. The competences examined will depend, of course, on the targeted learning goals for a unit. The EdSteps matrices included in the appendices of this book provide a helpful starting point for teachers in developing criteria to assess global competence.

Assessment is ongoing.

Like good sports coaches or theater directors, experienced teachers are rarely surprised by the final performance of a student in a course. They assess learners' performances

formally or informally over time. Because developing global competence is demanding and involves higher order thinking, it is important that teachers monitor and support students' development over time. Quality assessment therefore begins in the initial days of a unit or course, when teachers can invite students to share their thoughts and questions about the global topic to be studied and gauge their orientations, assumptions, and possible misconceptions.

Assessment offers informative feedback.

To deepen their global competence, students benefit from informative feedback. As experienced teachers know well, to excel students need more than a general grade for the quality of their work. They must be told about the specific features of a reflection, paper, presentation, or work of art that demonstrate their accomplishments along with areas for further growth. Explicit assessment criteria and rubrics help teachers and students reflect on the work and orient further learning with the global competences in mind.

Assessment can be conducted by multiple stakeholders.

Students benefit from self-assessment as well as from having their work assessed by a variety of stakeholders—peers, teachers in related disciplines, members of the community, participants in a global initiative, field experts. Obviously, teachers hold the primary responsibility for assessing their students' work and offering guidance, however there are multiple occasions in which peer assessment using established criteria may take place first, enabling students to develop a habit of reflection about their work. When members of the community or experts are similarly invited to offer feedback on student presentations, video productions, or graduation portfolios, they can deepen students' sense of the authenticity of their studies—their engagement in topics that matter well beyond grades, exams, and classrooms.

4. How will we know students are making progress? Global competence–centered assessments do the following:
    - **focus on global competence**
    - **are ongoing**
    - **offer informative feedback**
    - **can be conducted by multiple stakeholders**

Assessing student progress in Rita Chang's earth science classroom

Rita Chang's assessment criteria are consistently aligned with her goals to help students understand the earth as a dynamic and ever-changing system, appreciate the power of

scientific inquiry, and participate in caring for our planet and developing a strong sense of global environmental stewardship. Three excerpts from Chang's unit materials illustrate how she monitors and supports her students' learning.

Clear expectations in assignment descriptions.

Chang's independent research assignment description states expected content and quality for each section of the report. Consider for instance the excerpted instructions for students' research report. Notice how the expectations and criteria are focused on helping students conduct a scientific inquiry of their chosen phenomenon [**focused on global competence**], inviting students' to monitor their own production against such expectations [**assessment conducted by multiple stakeholders**]:

> **TITLE: State specific question: This question is the Title of the IRP.**
>
> **Is this a Question? Is it stated clearly? Is it relevant to our efforts to understand local and global changes in the earth? Are there dependent and independent variables?**

> **BACKGROUND: Review of up to date literature relevant to the question.**
>
> **This is a 3 page original, written paper, one per student -individually graded.**
>
> **What's the Big Picture Science context that frames the specific question? Is research up to date? Is it relevant to the location and focus of your question? Did you find your own sources? Are valid sources cited in the text either using footnotes, or numbers referring to bibliography? Cite your sources right in the text, either using footnotes, or (1,2,3, etc.).**

> **YOUR HYPOTHESIS: One good paragraph.**
>
> **What is the hypothesis that will be tested in this experiment? What is the predicted result? Please do not rewrite this AFTER you do the experiment. Scientists expect to be wrong along the way; it's how they get closer to getting it right). What relationship, correlation, dependence between variables is expected based what is already known?**
>
> **Remember, a graph is the story of relationship between variables, so predict what you expect to find. ("Tiny", "a lot", "little bit", "humongous" – these are not scientific terms. Quantify, based on what you already know. Consider comparisons: compared to what is something a change? Consider logic: how does your hypothesis flow from your background paper/research? Consider clarity: is your hypothesis simply stated and clear?**

Special attention to learning challenges.

As an experienced teacher, Chang pays attention to the particular learning challenges her unit presents. Listening to her students discuss potential topics of study for their final project confirms her observations of the previous weeks [**ongoing assessment**]. Furthermore, to support students early in their learning process she crafts assignment descriptions that support students' independent work [**informative feedback**].

INDEPENDENT INQUIRY PROJECTS

Inquiry is the intellectual side of science. Inquiry is thinking like a scientist. It's being inquisitive, asking why, and searching for answers. Earth inquiry involves interpreting local problems we choose to study against the background of the Earth as a system.

Who asks the question? You do.

Most of the time, focus questions are "given" to you. (Did Birds Descend from Dinosaurs? How have C02 levels Changed Over Time? What is the relationship between the amount of water vapor in the atmosphere and rainfall?) Now you can pursue your own focused question.

Asking good questions is one of the hardest challenges in science. You could spend weeks trying to formulate a good question – one that can be answered through experimentation. Scientists often dedicate their lives to searching for the answers to the specific questions that pave the way to answering the big burning questions that won't let go.

Your question needs to be specific enough that you can take measurements. What will you measure, in what location, over what time frame to test your hypothesis? These measurements will be your data. Because you will need to ensure the accuracy of the data you collect, you will need to analyze, interpret, and communicate your results to others, make sure that your question is a manageable one. A good researchable question captures the heart of the problem you are choosing to study and key locations and timeframes for studying considering the data available to you.

What will be your question? Consider a few drafts, ask for feedback and prepare to workshop your questions when we conduct our workshop review.

Targeting learning goals through ongoing feedback.

By reviewing draft sections of student reports, Chang is able to understand the particular demands the project is making on students. Providing specific feedback on early drafts enables her to correct misconceptions and scaffold students to produce quality work. Consider her feedback to one students' sea ice melting problem below:

This project has been designed to answer the question of whether the extent of sea ice has changed and been affected by a change in air temperature. Because of the time period that this experiment takes place in, (1978-2006) it seemed important to relate this topic to global warming in some way. This project connects to the bigger question of, "How does this affect me?" This study matters to everyone because if all of the ice at the poles disappeared then sea level would rise and encroach upon the land that we live on. In countries that have a border with the sea, a large percentage of the population lives in the coast, and a rise in sea level would encroach on the little land that they have. The website: http://forces.si.edu/arctic/02_02_00.html tells us that ice reflects 85-90% of the energy from the sun back into space. Without this ice cover, 80-90% of the sun's energy gets absorbed into the earth, which further heats the earth and causes more ice to melt. The Arctic Council and the International Arctic Science Committee's joint report "Impacts of a Warming

Please state in question form. Has the extent of sea ice changed?

"sea level rise" (remember that sea ice doesn't add to sea level rise – you should know this from your research. What kind of melting would make a difference?)

Arctic"(to download the full report, follow this link: http://amap.no/acia/) tells us that a decrease in sea ice would have effects that extend into the other earth spheres. For example, the tree line would rise, further distorting the delicate balance of the earth systems.

..too general, give examples of specific countries and regions—

"a large percentage' how much on average of the world' pop leaves near the coast? Be precise in your writing about local and global patterns

"treeline" What does this mean/ define your terms

"distorting balance" How? by doing what/ explain the dynamics you have in mind.

Don't refer to a website. Identify a real scientific source by name and then include a website address as the very last piece of info in the citation.

Standards and accountability

Rita Chang uses state standards for learning in science to ensure that the scientific concepts, skills, and attitudes her students will encounter in this unit address ninth-grade requirements for her state, Massachusetts. She does not teach prescribed individual concepts and skills in isolation. Rather she has identified a topic of global significance—climate instability in the earth's system—that naturally lends itself to students' achieving state standards while supporting her global competence learning goals.

I. Content Standards

1.8 Read, interpret, and analyze a combination of ground-based observations, satellite data, and computer models to demonstrate Earth systems and their interconnections.

II. Scientific Inquiry Skills Standards

SIS1. Make observations, raise questions, and formulate hypotheses
SIS2. Design and Conduct Scientific Investigations
SIS3. Analyze and Interpret Results of Scientific Investigations
SIS4. Communicate and Apply the Results of Scientific Investigations

III. Mathematical Skills

Construct and use tables and graphs to interpret data sets
Perform basic statistical procedures to analyze the center and psread of data
Measure with accuracy and precision
Convert within a unit
Use common prefixes
Use ratio and proportion to solve for problems
Solve simple algebraic expression

Toward the end of the unit, Chang invites students to reflect about their learning, the findings that struck them as significant, and the questions they now have. This process of reflection consistently reveals students' enhanced capacity to inquire about the world beyond their immediate environments. For many, this understanding is accompanied by a desire to make a difference.

Conclusion

Not all efforts to teach for global competence need to take the form of an in-depth unit, like Rita Chang's explored above. Teachers may design just a few lessons to complement a unit. For example, following a unit on the French Revolution, a teacher in New York decided to run a series of Socratic seminar sessions on the construction of national identity in contemporary France. Using an account of the headscarves debate produced by Facing History and Ourselves, these students debate questions such as, What does it mean to be a French person today? In what ways are the ideals of the French revolution still alive in today's France, and in what ways are they being challenged? How is being French a matter of law, individual identity, group identity, or birthright? Students conduct a series of self-monitored deliberations on these issues informed by primary sources, historical accounts of immigration, policy statements, and public opinion polls. The Socratic seminars last only a few days, but they enable students to revisit the French Revolution with a contemporary global perspective.

Teachers may opt for in-depth units of study or for selected lessons. They may favor introducing a given competence into a course and revisiting it throughout or adding a small project on a global issue at the end of a course. Regardless of scope or discipline, instructors benefit from the kinds of informed and deliberate planning outlined above. Designing quality instruction is never a linear process. Rather it is best conceived as a spiraled process that involves brainstorming, designing, getting feedback, redesigning, testing ideas in practice, reflecting, and redesigning again. Teachers are well supported in this process by professional learning groups with whom to share their emerging plans.

An invitation to ponder

I. This chapter sets out a series of principles for designing instruction for global competence. Reflect in writing about which of these ideas
   (a) reflect your typical approach to teaching
   (b) enrich your typical approach to teaching
   (c) are puzzling to you at this time

II. Think about Rita Chang's unit example and consider the following: What qualities of her unit call your attention and why? What obstacles do educators confront when teaching for global competence? What strategies enable them to overcome such challenges?

III. Consider some of the activities your students do. In what ways are they "performances of global competence"? In what ways could they become "performances of global competence"?

CHECKLIST FOR TEACHING FOR GLOBAL COMPETENCE

Check if applicable	Criteria	Comments
Have I selected a topic of local and global significance for this unit/project/visit/course?		
[ ]	• Does the topic invite deep engagement?	
[ ]	• Does the topic embody local and global significance?	
[ ]	• Does the topic embody global significance?	
[ ]	• Does the topic invite disciplinary and interdisciplinary grounding?	
Have I planned learning outcomes that are disciplinarily grounded and focused on global competence?		
[ ]	• Do learning goals capture important knowledge and skills in one or more disciplines?	
[ ]	• Do the selected learning outcomes capture relevant global competence?	
[ ]	• Are the learning goals shared with students and stakeholders?	
Have I planned performances of global competence for this unit/project/visit/course?		
[ ]	• Do my performances of global competence involve using disciplinary and interdisciplinary knowledge and skill in novel situations?	
[ ]	• Do my performances focus on targeted global competences?	
[ ]	• Do my performances link local and global spheres?	
[ ]	• Do my performances engage students' cognitive, social, and emotional development?	
[ ]	• Do they invite a personal synthesis?	
Have I planned global competence–centered assessments for this unit/project/visit/course?		
[ ]	• Is my assessment focused on global competence?	
[ ]	• How will I assess student work over time?	
[ ]	• How will my feedback be informative to my students?	
[ ]	• Who (in addition to me) will assess and offer feedback on students' work?	

EXAMPLE PERFORMANCES OF GLOBAL COMPETENCE: INVESTIGATE THE WORLD

USE DISCIPLINARY KNOWLEDGE AND MODES OF THINKING IN NOVEL SITUATIONS	FOCUS ON TARGETED GLOBAL COMPETENCE (INVESTIGATE THE WORLD)	LINK STUDENTS' EXPERIENCES TO THE WORLD	ENGAGE STUDENTS' COGNITIVE, SOCIAL, AND EMOTIONAL DEVELOPMENT
• As a class, brainstorm questions about the global topic to be studied, rank questions, and discern what concepts, methods, and discipline will be informative. • Apply methods used in class (e.g., literary analysis) to new world cases (e.g., Russian and Chinese poetry). • Explain how a given disciplinary theory, finding, or approach has been informed by development or people around the world. • Collect and synthesize data to compare a phenomenon in multiple locations. • Write a reflection describing challenges experienced and strategies developed for weighing and interpreting foreign sources. • Examine and comment on an expert's investigation of the problem under study. • Observe the local context for evidence of the topic under study (e.g., energy crisis, migration) highlighting the questions that come to mind. • Identify members of the local community or family who might be good informants about the global topic under study. • Create a comparison chart about the investigated topic in your and another community or context. • Create a ripple chart that illustrates how the investigated topic impacts realities in expanding circles beyond your community. • Develop group collaboration rules for your research team and a strategy to monitor group cooperation. • Collect a series of images that relate to the topic under study and share possible questions, reactions, and your feelings about it. • Discuss the broader implications of your research findings to you, your close circle, and other affected people. • Collaborate with peers in another city or region to investigate a common topic of interest.			

EXAMPLE PERFORMANCES OF GLOBAL COMPETENCE: RECOGNIZE PERSPECTIVES

USE DISCIPLINARY KNOWLEDGE AND MODES OF THINKING IN NOVEL SITUATIONS	FOCUS ON TARGETED GLOBAL COMPETENCE (RECOGNIZE PERSPECTIVES)	LINK STUDENTS' EXPERIENCES TO THE WORLD	ENGAGE STUDENTS' COGNITIVE, SOCIAL, AND EMOTIONAL DEVELOPMENT
• Consider how the same historical event has been represented in different countries that have been affected by it, and discuss possible motivations for such renditions of history. • Interview individuals who are knowledgeable or experienced in the topic under study, describe their perspective and how it informs yours. • Focus on the topic being studied to consider the questions you would raise if you were in the shoes of different stakeholders or disciplinary experts. Employ a thinking routine (e.g., "From the perspective of x, I notice this about the topic, and I wonder . . .," etc.). • As a class, make individual life drawings of a given object. Compare the drawings the class produced to distill dimensions in which perspectives differ or are the same (e.g., in distance, highlight, interest, skill). Examine how this thinking applies to the issue you are studying. • Create a self-portrait (digital, visual, narrative) that shows who you think/feel you are and how others view you. Create a similar portrait of a person you are studying and comment on your degree of certainty about "knowing" him/her. • Produce a graphic depicting causes and influences on the values or behaviors of a group or individual under study. • Watch one of the experiments on human nature (e.g., the Milgram experiment; the brown-eyed, blue-eyed experiment; the Robbers' Cave experiment) and evaluate the merit of using science to explain human behavior. • Write a journal entry on an issue of contemporary significance using the persona of someone in a different country or culture. • Track news events on a local or global issue across different news networks and chart the similarities and differences in the reporting. Hypothesize influences on such perspectives. • Put yourself in the shoes of a character in the book you are studying and write a diary entry in response to an important incident in the novel. • Use digital communication to find out how someone your age in a different community or country will respond to similar incidents or historical episodes and suggest reasons for the commonalities and differences in your responses. • Offer a critical reading of a given rich text and explain your viewpoint, providing evidence from within and outside the text.			

EXAMPLE PERFORMANCES OF GLOBAL COMPETENCE: COMMUNICATE IDEAS

USE DISCIPLINARY KNOWLEDGE AND MODES OF THINKING IN NOVEL SITUATIONS	FOCUS ON TARGETED GLOBAL COMPETENCE (COMMUNICATE IDEAS)	LINK STUDENTS' EXPERIENCES TO THE WORLD	ENGAGE STUDENTS' COGNITIVE, SOCIAL, AND EMOTIONAL DEVELOPMENT

- Prepare your project presentation to be delivered to different audiences (e.g., a group of experts, children in the elementary school, and individuals affected by the topic you are discussing).
- Identify interesting moments of communication or miscommunication in a film or a novel and examine what it tells us about how communicating with diverse audiences works.
- Define a significant concept (e.g., democracy, global citizenship, culture, biodiversity) and connect your definition to those provided by others in different times, regions, or disciplines.
- Write a reaction to how different news agencies have reported on the topic you are studying and care for.
- Participate in a Socratic seminar to discuss a selected topic of global significance. Reflect on the ways in which language (verbal, nonverbal, digital) contributed to or impeded deep thinking.
- Write an essay or create a multimedia artifact that expresses your informed position on the topic you are studying and invite peers in different contexts to react to your main ideas. Revise your essay considering their diverse input.
- Keep a class record of how different words, phrases, and nonverbal cues and gestures contribute to raising our curiosity and deepening our understanding of and participation in global matters.
- Create an interest group on your preferred social networking site to discuss a topic under study.
- Investigate how the use of communication technologies has impacted politics both in America and other countries and evaluate that impact for both benefits and problems.
- In collaboration with your peers, create a guide on local customs, cultures, and norms for foreign students in your school, along with an explanatory guide for local students on how to better communicate with foreign students.
- Document a local/global event using a preferred mode of communication (e.g., photo collage, essay, slide show, poem).
- Craft and administer a culturally sensitive survey on how different groups of people view the impact of your topic of study.
- Write a satirical essay expressing your views on the topic you are studying and imagine contexts in which your satire would and would not work.
- Craft a response to the latest offerings on your school's English reading list, stating persuasively what you would consider a good reading diet for you and your peers.

EXAMPLE PERFORMANCES OF GLOBAL COMPETENCE: TAKE ACTION

USE DISCIPLINARY KNOWLEDGE AND MODES OF THINKING IN NOVEL SITUATIONS	FOCUS ON TARGETED GLOBAL COMPETENCE (TAKE ACTION)	LINK STUDENTS' EXPERIENCES TO THE WORLD	ENGAGE STUDENTS' COGNITIVE, SOCIAL, AND EMOTIONAL DEVELOPMENT
• Create a chart that compares and contrasts a series of existing initiatives to address the problem you are studying and draw your own conclusions about the qualities of a successful solution. • Apply disciplinary knowledge to explain why an entrepreneurship project you would like to carry out is worth investing in. • Reflect on and define for yourself the meaning of terms such as global citizenship, global entrepreneurship, social entrepreneurship, success, failure, and work. • Use a variety of artistic repertoires, forms, and media to invite reflections on an issue or topic that you have investigated. • Create a statistical model to compile findings from a survey on a problem that may require action (e.g., the energy consumption of different households). • Investigate the biography of an agent of change and develop a website or an exhibition that explains and honors her contribution. • Write a persuasive personal letter to invite donors to contribute to a worthy cause. Imagine you are writing this letter 20 years from now drawing on a rich record of contributions to new businesses or social initiatives. • Plan and conduct a project in your school that will contribute to improving conditions (e.g., reducing its carbon footprint) considering an evidence-based evaluation of its impact. • Create a multilingual brochure to encourage and guide young people to become involved in global initiatives in their community on issues that they are passionate about. • Read materials that depict ethical dilemmas of work—where personal success and responsible behavior are in conflict—and evaluate the options available to actors in it. With your class converse about the demands of ethical and socially responsible behavior on matters of global import (e.g., a new business initiative, privacy, and digital media) among your peers. • Create a graphic that shows how your actions here and now do or could impact the lives of people in your family, neighborhood, and beyond regarding the topic you are studying. • With your peers, develop criteria by which your proposed solutions to an issue under study should be assessed. Make sure your criteria are informed by your learning on one or more relevant disciplines.			

CHAPTER VIII
EDUCATING FOR GLOBAL COMPETENCE: WHAT SCHOOLS CAN DO

The previous chapters have demonstrated that developing globally competent students requires carefully designed curricula, instruction, and assessment practices. Students benefit still more when they encounter multiple curricular and extracurricular opportunities to think and act upon matters of global significance. What can schools do to create such internationally minded environments?

Clearly schools begin their efforts to become more internationally minded at different starting points. Schools interested in educating for global competence may already be offering international education opportunities to students: a carefully designed world history course, a successful model United Nations program after school, a program to mine cultural diversity among immigrant families in the local community. Individual initiatives like these may represent entry points to schoolwide change. This chapter provides a broad framework for considering what schools can do to promote global competence, offering a variety of ways educators can pursue change selectively or transform whole school structures to promote global competence. While the framework is largely drawn from schools in the United States,[42] its lessons can be adapted to—and further informed by—school change innovations around the world.

Since 2003 Asia Society's International Studies Schools Network (ISSN) has developed a comprehensive school design matrix to serve as a blueprint for the creation of schools that systematically nurture students' inclination to think about and act on issues of global significance in informed ways. The design matrix includes five key domains, which are used to organize this chapter:

- Vision, mission, and school culture: the expectations, attitudes, traditions, and values that promote global competence within the school.
- Curriculum, instruction, and assessment: the systems that guide the creation of an internationally focused, problem-based curriculum and the related instructional strategies and assessments necessary to deliver it effectively. World languages are an especially important component of globally focused schools.

- Relationships organized for global learning: the structures that enhance student engagement and connection between adults and students in the school and to its globally focused mission.
- Professional learning communities: professional development specifically focused on international content in varied locations and cultural contexts.
- Family and community partnerships: the ways in which a school can initiate and maintain relationships with families as well as with a range of business, university, and community organizations to support its learning mission.

Vision, mission, and school culture

A school's vision or mission statement defines its core values and its aspirations for students, providing an important guide for planning and decision making. Thus a clear signal to students and educators alike that a school prioritizes global competence is a mission statement that says so. For example, the mission statement of the Denver Center for International Studies, serving students grades 6–12, leaves no doubt about its goals for students: "The Denver Center for International Studies prepares students for college by developing multilingual, interculturally competent students who are actively involved in a rapidly changing world."

A school's vision and mission can drive the creation of a school culture of global competence—one in which issues of global significance permeate hallway posters, cafeteria discussions, and student work and organizations.[43] Schools seeking to nurture the core global competences—investigating the world, recognizing perspectives, communicating ideas, and taking action—value them and give them time. Indeed, establishing a schoolwide culture of global competence involves more than teaching for global competence: it entails creating an environment where students are *acculturated* into globally competent ways of thinking and acting, ways that become habits of mind and heart.

Developing a graduate profile that describes the specific knowledge, skills, and dispositions to be acquired by a school's students by graduation—is a powerful way to translate a school's mission into clear expectations. It should set out not only how students are expected to perform, but also the kind of people it hopes they will become. The design of a graduate profile is a substantial undertaking, often involving collaboration among educators as well as the school's broader community. Schools and districts may find it useful to take an existing graduate profile and customize it. The ISSN Graduate Profile represents one approach, included here as an example for schools to adapt.

Profile of an Asia Society International Studies Schools Network (ISSN) High School Graduate

ISSN graduates are **Ready for College**. They:

- Earn a high school diploma by completing a college preparatory, globally focused course of study requiring the demonstration of college-ready work across the curriculum.
- Have the experience of achieving expertise by researching, understanding, and developing new knowledge about a world culture or an internationally relevant issue.
- Learn how to manage their own learning by identifying options, evaluating opportunities, and organizing educational experiences that will enable them to work and live in a global society.
- Graduate prepared for postsecondary education, work, and service.

ISSN graduates have the **Knowledge Required in the Global Era**. They understand:

- Mathematics as a universal way to make sense of the world: solving complex, authentic problems and communicating their understanding using the symbols, language, and conventions of mathematics.
- Critical scientific concepts, engage in scientific reasoning, and apply the processes of scientific inquiry to understand the world and explore possible solutions to global problems.
- How the geography of natural and manmade phenomena influences cultural development as well as historical and contemporary world events.
- The history of major world events and cultures and utilize this understanding to analyze and interpret contemporary world issues.
- Arts and literature and use them as lenses through which to view nature, society, and culture as well as to express ideas and emotions.

ISSN graduates are **Skilled for Success in a Global Environment**. They:

- Are "literate for the 21st century"—proficient in reading, writing, viewing, listening, and speaking in English and in one or more other world languages.
- Demonstrate creative and complex thinking and problem solving skills by analyzing and producing viable solutions to problems with no known or single right answer.
- Use digital media and technology to access and evaluate information from around the world and effectively communicate, synthesize, and create new knowledge.
- Make healthy decisions that enhance their physical, mental, and emotional well-being.

ISSN graduates are **Connected to the World**. They:

- Effectively collaborate with individuals from different cultural backgrounds and seek out opportunities for intercultural teamwork.
- Analyze and evaluate global issues from multiple perspectives.
- Understand how the world's people and institutions are interconnected and how critical international economic, political, technological, environmental, and social systems operate interdependently across nations and regions.
- Accept responsibilities of global citizenship and make ethical decisions and responsible choices that contribute to the development of a more just, peaceful, and sustainable world.

In best case scenarios, faculty members and the school community use both the vision and mission of a school and the graduate profile to guide daily decisions, using them as ongoing tools for self-evaluation of the school's intellectual and social climate and to monitor students' progress. They are included in the school handbook, referred to in discussions among school faculty, students, parents, and partners, and included in communications coming from the school and posted on its website. Moreover, there is a system in place to ensure that these guides for developing and sustaining a culture of global competence are periodically re-evaluated to ensure their relevance within an ever changing global environment.

Curriculum, instruction, and assessment

A school's approach to articulating the curriculum and engaging students in instruction and assessment are the primary ways through which global competence becomes a reality for students. This section examines how each of these elements of a school's "core business" can promote global competence.

Curriculum

A variety of approaches put teaching and learning for global competence within the reach of every type of school. Revisited here are several key concepts that identify ways of thinking about integrating a global focus into school curricula:

- *Engaging students by addressing global challenges.*

Across disciplines, students become deeply engaged in subject matter when they see its relevance to solving major problems in the world or creating new opportunities for improving conditions. In science, for example, the energy value of foods examined in a high school biochemistry course can be explored through the lens of hunger and food scarcity in the world. In mathematics, even young children can begin to learn how numbers and mathematical expressions help people understand the world—from the size of populations to the sequencing of events that helps illuminate the path of history. Key concepts in social studies such as migration and urbanization can be examined globally, and the arts provide virtually unlimited opportunities for disciplined examinations of global issues and creative responses. As these examples suggest, teaching for global competence involves finding meaningful new ways to reframe the content teachers already cover, avoiding contrived or superficial connections.

- *Globalizing the context for learning.*

Viewing course content from a global perspective provides important opportunities to deepen understanding and hone critical reasoning skills. A question such as "How have individuals or governments abroad influenced or been influenced by developments in U.S. history?" invites students to take a global perspective in a U.S. history course. Likewise, English language arts courses can be globalized by expanding the scope of literature to include works from around the world.

Comparative analysis provides especially fertile ground for recognizing and weighing perspectives.

For instance, students might examine international efforts to mitigate climate change by conducting an analysis of three different countries' policies, especially by examining original documents from the countries themselves. The analysis could be enriched by careful consideration of public opinion on countries' policies garnered from newspapers and other sources from the various nations.

- *Connecting to universal themes.*

Illuminating the universality of themes and issues is another means to help students make sense of the world. Broadening the base of literature students are exposed to helps them discover universal themes such as the search for identity, the impact of oppression, or the power of the individual to change the course of history. This is clearly evident in the poignant analysis of the universal themes of disappointment, religion, sacrifice, and femininity in the work of author Lezama Lima, as discussed in Chapter III. In social studies, powerful questions such as "Why is religion a universal phenomenon?" can lead students to a fascinating analysis of beliefs, rituals, and traditions of the world's religions. The example of sixth-grade students studying the Roman and Incan number systems, also presented in Chapter III, illustrates how students can discover the universal characteristics of mathematics.

- *Illuminating the global history of knowledge.*

Mathematics and science are particularly amenable to demonstrating the global historical roots of knowledge and its progression over time through global interactions. Young children can explore the origins of counting across ancient civilizations in Mesopotamia, Africa, and the Americas to connect the history of mathematics with what is taught today. Pascal's triangle, for example, was discovered by Hindu and Chinese mathematicians long before Pascal was born. Scientific knowledge and modes of inquiry that traveled along trade routes in the Islamic world 1,000 years ago are part of the heritage of ideas and discoveries leading to today's universal methods of scientific inquiry and standards of evidence.

- *Learning through international collaboration.*

Videoconferencing, social networking, and other communication technologies now allow students unprecedented opportunities to investigate issues of global significance with students around the world—much the way working professionals now operate in global teams. There are a great many ways to structure such interactions among students, from scientific collaborations on shared databases to collaborative artistic endeavors. Opportunities for students to learn from adults worldwide through virtual connections are also widely accessible through universities, learned organizations, nonprofits, and businesses. As just one example practicable almost anywhere, inviting community members into a school to share the multinational origins of everyday retail products can be an eye-opening experience for students.

Instruction

A globally focused curriculum needs to be linked to the kinds of best practices in instruction described in Chapter VII. Under such practices, teachers select topics of global significance, focus

instruction on selected concepts and skills, and devise rich learning experiences that function as performances of global competence, which they assess continually with clear global competence–centered criteria. The example of Rita Chang teaching earth science and global climate change illustrates how core knowledge, skills, and competences may be employed to address a problem that students, teachers, and society deem of global import.

Assessment

Assessments that provide students opportunities to demonstrate global competence are an essential aspect of what schools can do. Currently, states are collaborating to develop new forms of assessments that assess the Common Core State State Standards. Indeed, the importance of standards-based summative assessments that go further than many existing tests in measuring aspects of learning critical to global competency cannot be overstated. There is just as great a need, however, for schools to employ formative and summative assessments of student learning that enable students to demonstrate global competence, especially assessments that are themselves activities that promote further, deeper learning.

One example of a "performance-based" assessment system geared toward demonstrating and advancing global competence is Asia Society's Graduation Portfolio System (GPS). A set of performance outcomes and related rubrics have been designed for each academic content area as well as for a set of cross-cutting global leadership skills, which describe characteristics of student work that demonstrate both college readiness and global competence. Teachers may use these performance outcomes and rubrics as starting points for designing performance assessment tasks. Lasting from a few days to several weeks, these tasks require students to investigate a global problem and construct a solution reflecting diverse perspectives through the application of knowledge and skills derived from rigorous disciplinary or interdisciplinary study. Students' work is then scored against GPS rubrics and feedback is provided, helping students see clearly where they need improvement to meet the criteria for global competence and college readiness in each subject area and on the cross-cutting global leadership competences.

In addition, the process of assessing the work can be powerful in helping teachers improve their instructional practice. How is the work students produced different from what I expected while crafting the task? What does the work say about possible gaps in students' knowledge and skills? These are the kinds of useful questions resulting from careful examination of student work. As such, the GPS is intended to support teachers in designing and refining assessments that enable students to demonstrate the complex, contextualized skills of global competence, while also facilitating the continuous process of pedagogical improvement for teachers.

World languages

The study of world languages is a core component of global competence. Virtually all of the highest performing nations in the world require their students to begin sustained second

language instruction from an early age. Yet according to the American Council on the Teaching of Foreign Languages, only 30 percent of secondary school students in the United States are enrolled in a foreign language course. And in some states, student enrollment in secondary foreign language courses is below 10 percent.[44]

The failure to embrace the benefits of world language programs in the U.S. stems in part from a failure to recognize the ways learning another language contributes to a student's broader academic and professional skill set. Learning a second language is one of the most effective ways to allow students to see things from multiple perspectives and consider worldviews that might differ from their own—a critical skill in an increasingly diverse nation and globalized world. And while there is much debate over which languages are most critical to learn, research shows that the skills developed learning one language can be applied to the learning of others.[45] The goal, therefore, should be to make students effective learners of language in general, rather than just successful learners of one language in particular.

Building a successful world language program means ensuring that language is seen as much more than a class in a school building. Sustainable programs connect with other academic disciplines, engage the larger school community, and offer opportunities to interact with students in other countries through electronic exchanges, travel, or studying abroad. While the mastery of grammar and vocabulary have formed the core of most world language instruction in the United States, the best world language programs are those that go beyond language proficiency to build a more comprehensive framework for the development of students' global competence. For example, world language students should be investigating the cultures and societies in which the target language is spoken, learning about the diversity and history of the people who speak, read, and write it. They should be making comparisons between the target language and culture and their own, developing a stronger understanding of differing perspectives as well as the general principles of language patterns and structure. Students should be communicating with diverse audiences that include native speakers of the language and using their developing skills in authentic contexts. Indeed, building connections with native speakers makes the learning experience more authentic—and these personal relationships can be a significant motivator for students to continue their language study over the long term.

Starting at an early age is the best way to ensure that students will be able to develop significant levels of proficiency in a language and speak it without a significant accent and interference from their first language. But starting early is not enough. Many elementary language immersion programs currently feed into middle and high schools that do not offer a robust slate of world languages, forcing students to stop developing their proficiency. Similarly, many programs start early, but only offer students a relatively small number of contact hours per week. While this exposure is certainly better than nothing, it is unlikely to be a successful mechanism for significantly improving student proficiency. Students need substantial, continuous instruction from the early grades onward to reach their full potential as world language learners.

In addition to offering robust programs that build student language proficiency over time, it is critical that world language programs engage learners. World language teachers need

to consistently incorporate culture, including contemporary culture, into their instruction, and make the experience meaningful to students by fostering comparisons with their own. Similarly, world language programs should consistently make use of technology for both language learning and to connect students with their peers in other countries who speak the target language. Building connections with these and other native speakers will make the language learning experience more authentic and meaningful—and these personal relationships can be a significant motivator for students to continue their language study over the long term and to explore opportunities to travel and study abroad.

One of the key considerations in making a language program compelling for students is incorporating tasks that involve higher order cognitive skills—even at the beginning levels. While the grammar and vocabulary one learns in first- or second-year classes is inherently simple and limited, teachers can incorporate activities to engage learners at higher levels. For example, rather than just having students memorize grammar patterns or vocabulary, teachers can ask students to analyze and extract those patterns from authentic materials. Similarly, teachers can incorporate interactive games and role-playing scenarios that simulate real world situations, asking students to compare the target language and culture with their own.

Another mechanism for building student engagement is to incorporate content from other areas of instruction into the language classroom. Teaching lessons in the target language that connect to students' science or history courses, for example, is a great way to make the language more relevant and interesting. The ultimate goal should be that students have the opportunity to develop their communication skills in the language, while at the same time developing the capacity to learn and think about languages and cultures more broadly—being able to apply their skills in the real world.

Relationships organized for global learning

Education happens through relationships. Developing global competence in students likewise requires attention to the social environment of the school, perhaps especially given the tensions that education geared toward the real world may bring. When students are genuinely engaged in investigating the world, recognizing their own and others' perspectives, communicating ideas to diverse audiences, and taking action, they often encounter challenging ideas, unsettling facts, intriguing opinions, and exciting opportunities. School cultures that support global competence foster a relationship of trust. Educators show curiosity and respect for students' interests, worldviews, and positions, and interactions invite students to share these views.

Seeking to build relationships that nurture global competence, teachers and administrators may ask the following questions:

- How comfortable are students in our school with initiating meaningful conversations with their advisors, faculty members, or other students about issues of global significance, especially those that touch close to home in students' lives?

- Are there mechanisms in place, such as an advisory program, that provide safe spaces for students to develop both their academic and personal voices on global concerns?
- Are there regular opportunities for students to encounter individuals from backgrounds different from their own in ways that promote tolerance and understanding?

The extent to which a school's commitment to understanding and appreciating world cultures translates into the development of cross-cultural competency among students is especially important. In an informal focus group discussion at the Academy for International Studies (AIS) in Charlotte, North Carolina, a student expressed the connection between the global and the personal in these words:

> So, most people at AIS are really friendly and open. They're eager to learn about different [cultures] and they're very accepting of people, regardless of whatever background [they are from]. I'm sure there are little groups within AIS but . . . if anybody were to talk bad about someone we would all come together and be like, "No. This is AIS, we're more than that." So . . . I think in the end, we're like a big family. Families have their problems and they may not agree on some things or clash but in the end, we're all gonna have each other's back.

This comment illustrates that developing global competence is not solely an academic enterprise: it is way of acting and being in the world with others that values collaboration and inclusion—important foundations for citizenship in an interconnected world.

Professional learning communities

No matter how deep their passion for developing globally competent students, teachers cannot teach what they do not know. Teachers need ongoing opportunities to develop their own global competence as well as the pedagogical capacities to foster global competence in their students. In Asia Society's *Going Global: Preparing Our Students for an Interconnected World* (2008), a useful framework is presented for structuring globally focused professional learning communities for teachers:

- *Professional development activities should show both how to integrate meaningful global content and how to incorporate the development of global competence.* Indeed, the characteristics of global competence presented here call for developing deep understanding of the world through rigorous disciplinary and interdisciplinary study, as well as the nurturing of students' abilities to investigate the world, recognize perspectives, communicate across cultures, and take action—a blend of knowledge and skills teachers must foster to help students understand the world and how it works.
- *Bring other cultures into the school* in ways that are meaningful for the age of the students, the interests of the faculty, and the goals of the international program. Resources include university-based Title VI centers, which receive federal funds to promote the study of Asia, Africa, Canada, Eastern Europe, Inner Asia, Latin

America, the Middle East, Pacific Islands, Russia, and Western Europe, as well as many conference and workshop opportunities and online cultural resources.

- *Keep activities engaging, actively involving teachers* and working to combine good pedagogy with rich content. Engaging activities to consider include
    - international book clubs
    - collaborative curriculum development
    - simulation experiences and experiential learning opportunities
- *Develop a rich body of resources that teachers can use in their classrooms*, from foreign books, films, and magazines to selected informative websites; from a cadre of individuals who can serve as advisors to a set of teachers who can serve as critical friends.
- *Offer frequent opportunities for teacher reflection*—on their own and with colleagues. As noted, collaboratively looking at student work using established protocols is one extremely useful way to engage teachers in focused, productive reflection.
- *Support teachers' international travel*—there is no substitute for actual international experience to develop globally minded teachers. Many funding opportunities for teacher travel are available through Fulbright scholarships and a range of other programs. To make the most out of teacher travel, it is important that there be strong preparation for such travel and that there is an effective debriefing process that allows participants to make meaning of the experience and consider how to effectively translate it into learning activities for students.

Family and community partnerships

Schools set on developing students' global competence should recognize that parents' diverse cultural and linguistic backgrounds are valuable assets waiting to be mined for the benefit of the school community. A simple way to gather relevant information from parents—and signal the value of such information—is to send home a parent inventory form that allows parents to note their cultural background, languages, interests, and expertise. Teachers can draw on this database to broaden the curriculum with parents' lived experience.

Businesses, universities, museums, cultural organizations, and even retail stores are all important resources in supporting a school's global mission. Businesses especially have a vested interest in preparing the next generation of entrepreneurs, whose global competence will translate into a competitive edge in the global economy. They can be an important source of contacts and resources for students, including financial resources to support various programs and globally focused student internship opportunities. Among myriad potential partner organizations in a community, World Affairs Councils can be a particularly important resource for guest speakers and international connections. And students can play a role in identifying the community's key

cultural and international resources, mapping them geographically, and organizing them as a searchable database that parallels the asset map of parents' global knowledge and skills.

Conclusion

At its core, educating for global competence means creating a school culture where *investigating the world* is common practice. In these environments, cultural, religious, class, and regional *perspectives are recognized.* They are addressed not only as students examine an historical event or a work of literature, but also when they interact informally with teachers and peers. In turn, *communicating ideas* across diversity occurs not only in Spanish or French class presentations, but also as students resolve a misunderstanding in the hallway. *Taking action* is addressed not only in geography class, where students consider options to respond to a distant natural disaster, but also as they self-organize to support a chosen cause. As the examples in this chapter suggest, creating a genuine culture of global competence involves considering carefully at every turn how to connect the school to its global mission.

An invitation to ponder

I. In what ways is your school already developing a culture of global competence? How can you build on these beginnings?

II. How can your school creatively use the Common Core State Standards or state standards to promote global competence in English language arts and mathematics? Where are the key leverage points?

III. How can your school create professional learning communities and other professional development opportunities to support teaching for global competence?

CHAPTER IX
PROMOTING GLOBAL COMPETENCE THROUGH PUBLIC POLICY

There is a growing movement to ensure that today's students are successful in the global economic and civic environments of the 21st century. Individual teachers and schools are creatively introducing ways for students to analyze globally significant issues from a variety of perspectives, use international sources, and collaborate across cultures to produce evidence-based arguments and solutions. Districts, states, and the federal government have also initiated programs to promote international education and world languages. The task ahead is to take these nascent efforts to scale by making global competence a significant component of education and workforce development policy. If education communities are going to develop global competence in *all* students, not just a select few, there is a need to initiate systematic and aligned action at the district, state, and national levels.

There is much states can learn from comparing polices and practices among themselves. But just as successful businesses benchmark themselves against the best in the world, successful schools look to the best *international* benchmarks for global competence from the highest performing countries. The Programme for International Student Assessment (PISA) and other international assessments provide important mechanisms for identifying high-performing countries and the policies that support their students' achievement. Moreover, students in high-performing nations often learn a great deal more about the rest of the world than those in the United States, and most are expected to learn a second language from an early age. Therefore benchmarking education policies and approaches to reform provides valuable lessons on what other countries are doing to ensure their students know about the world and how it works.

The early 21st century has witnessed growing interest in the exchange of perspectives on educational policy and practice among nations.[46] This chapter draws on lessons learned from policy reforms instantiated by high-performing nations as the foundation for a series of recommendations for U.S. policymakers. It proposes promoting global competence as a policy priority through four key strategies: redefining expectations and high school graduation requirements to include global competence, increasing educators' capacity to teach about the world, making world languages a core component of K–12 curriculum, and providing greater opportunities for students to connect worldwide.

Redefining standards and high school graduation requirements to include global competence

There are two intertwined challenges facing American education. The first is overcoming the chronic failure of school systems to educate all students to high levels, especially students from low-income and minority backgrounds. The second is preparing students for work and civic roles in a globalized environment, where success increasingly requires the ability to compete, connect, and cooperate on an international scale.

The experience of high-performing regions provides important insights on how U.S. education systems can address these two interrelated problems. For one thing, high-performing education systems are premised on the belief that all students are capable of achieving at a high level—and that it is necessary that they do so. They act on the proposition that—for students of all ethnic backgrounds and ranges of ability—education is the way to advancement, and hard work and effort, not inherited intelligence, are the keys to success in school. High expectations for all students are codified in disciplinary and cross-cutting standards that define rigorous, engaging course content, establish coherence and reduce curricular overlap across grade levels, and reduce inequities in curricula across socioeconomic and ethnic groups.

In setting high, universal standards, high-performing nations strive to develop the kind of complex thinking skills and engagement with disciplinary content that serve as foundations for global competence. They consistently challenge their students to develop the inductive and deductive reasoning skills at the core of investigating the world, the ability to compare viewpoints at the heart of recognizing multiple perspectives, and the development of world language skills to communicate ideas across diverse audiences beginning at an early age. In the U.S., states' alignment to and adoption of the Common Core State Standards reflects the logic of high, systemwide standards, which can serve as a common platform for teachers interested in advancing curriculum and instruction for global competence while ensuring that foundational skills in language, mathematics, and other disciplines are mastered by all students.

To understand how well students are reaching standards foundational to global competence, high-performing nations are transforming their assessment systems to make more use of formative assessment, better use of data to improve instruction and performance, greater involvement of and professional development for teachers on assessment practices, and more authentic measurement of the kinds of reasoning capacities that support global competence.

Equally important to establishing high system wide standards and related assessment systems in the U.S. are efforts at the state and district levels to include global competence in the overall recasting and modernizing of high school graduation requirements. Such requirements can include expectations for proficiency in world languages and the capacity to demonstrate global competence across the curriculum—in science, mathematics, English language arts, visual and performing arts, American and world history, geography, and international economics. Educators nationwide are currently envisioning productive paths to implement the Common Core State Standards now adopted in the majority of states. These implementation efforts provide an ideal opportunity to integrate global knowledge and skills throughout mathematics,

English language arts, and other disciplines. New Jersey, for example, has been recognized for its 2009 Core Curriculum Content Standards, which include the Common Core State State Standards, and integration of global perspectives as well as the incorporation of rigorous content and 21st-century skills. To ensure teachers are able to teach to the new standards, a three-phase professional development strategy has been initiated and resources made available through an interactive website.

As middle and high schools are redesigned to address issues of equity, excellence, and global competence, states should consider creating internationally themed schools to act as models and professional development centers. North Carolina is one state currently taking this approach through the North Carolina Global Schools Network. A key element of this statewide initiative is to identify and secure the support of at least one "anchor district" in each of North Carolina's seven economic development zones. Each anchor district serves as a focal point for best practices in international education, including model language acquisition, global awareness, and global science, technology, engineering, and mathematics (STEM) programs for students, as well as international professional development opportunities for teachers and administrators.

Under state content guidelines, districts determine what students have the opportunity to learn. Districts can conduct an academic and program audit of the current efforts to teach about the world and consider how international content may be infused into existing courses and how language offerings could be expanded—including through online options. A plan with specific goals for increasing the number of students taking internationally oriented courses, including Advanced Placement courses, can be formulated to guide these efforts.

Districts can also use global competence as a focused approach to transforming poorly performing schools or creating new schools that promote improved student achievement. For example, Asia Society's International Studies Schools Network has shown success in preparing low-income minority students to be both college ready and globally competent. And the Seattle school district is creating 10 international schools, envisioning K–12 "international tracks" across the city, each with an international elementary school, middle school, and high school. An international education administrator for the district is spearheading this effort.

Increasing the capacity of educators to teach about the world

High-performing nations build their human resource systems by focusing energy upfront—in recruiting, preparing, and supporting good teachers—rather than on the back end through reducing teacher attrition and firing weak teachers. Teachers are compensated well, their initial preparation includes ample experience in clinical settings, and work conditions include being treated like a professional, opportunities to work with colleagues, and the existence of a career ladder. Regular, effective professional development is available and focused on the challenges teachers face, which in a system geared to nurturing global competence include developing students' capacity for success in an interdependent world. Evaluation provides useful feedback to improve the quality of instruction.

Lessons drawn from high-performing nations suggest that investment in teachers' capacity to teach the international dimensions of their subjects is imperative. Opportunities for teachers to increase their own knowledge and to kindle their excitement about other cultures must be expanded so that they can foster the same curiosity in their students.

Working with their institutions of higher education, which are themselves becoming more global, states can utilize their teacher certification mechanisms to outline goals for teachers' own global competence in order to drive change in teacher preparation programs. Such needed changes in teacher preparation programs include better linkages between arts and sciences departments and colleges of education, expansion of study and teaching abroad opportunities for prospective teachers, and systematic training in how to integrate international content and perspectives into required education courses. Likewise, professional development programs for current teachers should be reexamined through the lens of global competence and updated accordingly. States can use their P–16 councils to create P–16 partnerships for international teaching excellence linking universities' international experts with schools of education and districts and offering high-quality professional development—including study abroad and online courses.

Like many states, Michigan faces continuing economic challenges that underscore the need for and value of preparing students to understand and respond to a global economy. Michigan State University's College of Education has worked with the university's Title VI area studies centers to infuse global perspectives and resources into a social foundations of education course, required of all education majors. The college also has a Global Educators Program for prospective teachers interested in bringing global competence to their teaching practice. It includes globally oriented professional education courses, extracurricular activities, and international experiences.

Michigan State University has also played a role in identifying and developing important resources for districts. Collaboration between the university and the Michigan Virtual High School has provided online instruction in Mandarin Chinese. And the Office for K–12 Outreach has partnered with the nonprofit Education Alliance of Michigan in sponsoring statewide professional development conferences on internationalizing Michigan education.

Well prepared teachers interested and able to teach their students how to investigate the world, recognize diverse perspectives, communicate ideas, and apply their knowledge to make a difference are essential, but so to are highly effective school leaders. As high-performing nations have established national standards, they are increasingly devolving authority to meet those standards to the level of the school. Thus the capacity of school principals and head teachers becomes ever more critical. The qualities of effective leaders include the capacity to support, evaluate, and develop teacher quality; establish clear learning objectives and thoughtful assessments; strategically allocate resources in alignment with instructional objectives; and develop partnerships to support the school's mission among education and cultural organizations, businesses, and parents.

The school leader is fundamental to promoting global competence as a key priority and making it an essential aspect of school culture. He or she is responsible for establishing the knowledge and skills foundational to global competence as key learning objectives, and supporting

teachers in their efforts to integrate these objectives as they work to ensure that all students meet state and local standards.

Making world languages a core part of the curriculum

To build American K–16 education systems' capacity in world languages, the federal government must play a critical role, coordinating activities to ensure that evolving national security and economic needs for world language proficiency are met. Federal incentives could enable states and localities to establish and fund language programs, starting in the elementary grades and continuing through high school. They could also promote online language learning and encourage the recruitment and training of language teachers from diverse language communities.

States need to create a long-term plan to expand their capacity in world languages and build on effective approaches, including starting early and creating longer sequences of study, using immersion-like experiences, focusing on proficiency rather than seat time, and harnessing technology (e.g., online language courses). High-quality alternate certification routes can be created to speed up the training of language teachers from heritage communities and enable the development of programs in less commonly taught languages, such as Chinese and Arabic.

Utah has a long tradition of world language development, and is rich in linguistic resources within the state. That tradition was highlighted in September 2008 at the Governor's Language Summit, where leaders in business, education, and government met to discuss and create a new paradigm in language education. The summit helped bring about the development of the Utah Language Roadmap as well as the Governor's World Language and International Education Council, a body that meets regularly to continue the work. These initiatives resulted in the state funding a full-time world language specialist who oversees 96 secondary schools offering Mandarin Chinese, 12 secondary schools offering Arabic, and 50 dual-immersion programs—6 in French, 14 in Mandarin, and 30 in Spanish. Utah has committed to reaching 100 dual-immersion schools by 2015.

Other districts have also seen the benefits of implementing a world languages pipeline for students. In 1999, recognizing that Chicago is a global city and China is a major trade partner, Chicago Public Schools created a new position in the Office of Language and Cultural Education to infuse more Asian languages and cultural studies into schools. Shortly thereafter, the Chicago program on Chinese language and culture was launched in three schools. This program rapidly spread and by 2010, 44 elementary and high schools hosted Chinese language programs. A school council at each school made up of parents, teachers, administrators, and community representatives approves all programs, staffing, and budgets. The city supports the largest Chinese program in the country and even caught the attention of China's President Hu, who visited the city during his official visit to the United States in 2011.

Providing greater opportunity for students to connect worldwide

Imagine if every American school had an ongoing partnership with a school in another part

of the world, whereby students could learn with and about each other. Not only would our students be better prepared, but also America's image abroad would be greatly enhanced.

State and local technology resources are a great asset in connecting students to international peers. State technology offices can encourage the use of information sources from around the world, help teachers engage in international classroom-to-classroom collaborations, expand opportunities for students to take internationally oriented courses and world languages online, and promote student-created international projects on the web. Nongovernmental organizations such as iEARN, Bridges to Understanding, Pennies for Peace, Global Kids, Taking IT global, and World Savvy are already seizing the opportunity to link young minds. These organizations are eager to partner with schools and districts nationwide, and their rapid growth speaks to the timeliness of their vision.

Local business, cultural, and community organizations can support a district's international work, and international partnerships can directly support efforts to develop global competence. For instance, the Chicago School District's Mandarin program is built on an international partnership with Shanghai to provide visiting language teachers. And the Center for International Understanding's Cultural Correspondents program, in partnership with North Carolina State University, connects North Carolina's K–8 students with university study abroad students to give them an idea of what it is like to live in another country. The curriculum is linked to the standard course of study and supports global competence for students. Students across the state are learning alongside college students studying in Australia, Denmark, Ecuador, England, Ghana, Japan, Morocco, Spain, New Zealand, and other countries.

Conclusion: A relentless drive for excellence and equity in a global era

The United States is one of only three Organisation for Economic Co-operation and Development (OECD) nations that devote fewer resources to schools facing greater socioeconomic challenges.[47] High-performing nations invest resources where they can make the most difference in student learning, including distributing teachers through incentive structures to areas of greatest need. One set of standards guides instruction and assessment for all students, and structures are put in place to reduce tracking in elementary and lower secondary school and to provide greater options for success in high school. And while emphasis is placed on effective education systems for all students, effective incentives and strategies are put in place for turning around low-performing schools.

The bottom line is that high-performing nations are systematically implementing policies and practices that advance *all* of their students' ability to perform in the global economy, evincing a relentless pursuit of excellence and equity in a global era. Giving students the knowledge, skills, and perspectives they will need to function successfully in the global age is a task requiring leadership at every level. Schools, districts, states, and the federal government must all work together to upgrade U.S. education to meet the demands of the 21st century. The cost of "putting the *world* into *world-class education*" will be considerable. The cost of not doing so will be infinitely greater.

An invitation to ponder

I. Do policymakers in your district or state regard global competence as a key priority in education? What's needed to make the case that it should be?

II. How do practices and policies in your district or state compare to those of high-performing school systems worldwide?

III. What changes in district or state education policy now under consideration could provide a platform for advancing global competence for all students?

CONCLUSION

Virtually every major issue people face—from climate change to national security to public health—has a global dimension. Information technologies ensure that news from every country reverberates around the world in minutes. And with over 200 million migrants worldwide, migration and immigration are creating societies that are enormously diverse, linguistically and culturally. More than ever people, cultures, and nations are interdependent, requiring the preparation of students capable and disposed to solve problems on a global scale and participate effectively in a global economic and civic environment. Put simply, schools must prepare students to be *globally competent.*

This volume has defined global competence as the *capacity and disposition to understand and act on issues of global significance.* Supported on a foundation of knowledge and understanding developed through rigorous disciplinary and interdisciplinary study, globally competent students are able to do the following:

1. **Investigate the world beyond their immediate environment**, framing significant problems and conducting well-crafted and age-appropriate research.
2. **Recognize perspectives, others' and their own**, articulating and explaining such perspectives thoughtfully and respectfully.
3. **Communicate ideas effectively with diverse audiences**, bridging geographic, linguistic, ideological, and cultural barriers.
4. **Take action to improve conditions**, viewing themselves as players in the world and participating reflectively.

Reflecting a variety of subject-specific and interdisciplinary scenarios, the educational work featured in this volume demonstrates that global competence can be developed across ages, disciplines, and educational institutions. Collectively these examples shed light on the variety of stakeholders whose perspectives, expertise, and commitment will be necessary to nurture a globally competent generation. Recognizing the key role both public and private sectors play in education, this concluding section focuses on what various stakeholders can do to further global competence. These suggestions are presented in the hope that synergistic actions across sectors will take global competence from the margins to the mainstream of education and cultural policy, in the United States and beyond. One thing is clear: the magnitude and

significance of this enterprise demands that educators take actions—small and large, individual and collective—not waiting for others to take the lead.

Teachers: What can you do?

- ***Create professional learning communities*** supporting collaborative work to thoughtfully infuse the curriculum with opportunities for students to investigate and analyze issues of global significance, communicate findings to diverse audiences, and improve conditions.

- ***Target high-leverage entry points*** within the curriculum to engage students in rigorous global inquiry, using national, local, and school expectations (e.g., Common Core and state standards) as gateways to deep learning and intellectual development.

- ***Connect your classroom and curriculum*** to cultural and educational institutions that can further opportunities for students to learn to investigate the world, recognize perspectives, communicate with diverse audiences, and take action. Institutions may include museums, civic institutions (Red Cross, scouts), afterschool and extended learning programs, and nongovernmental organizations that promote global competence and intercultural communication (Bridges to Understanding, Taking IT Global, World Savvy, iEARN).

- ***Develop your own global competence*** by taking advantage of opportunities to learn about the world's cultures, languages, and interdependent systems, and to broaden your perspective through travel and study abroad.

School and district leaders: What can you do?

- ***Lead your education communities*** in developing a deep understanding of the importance of global competence for the success of every student and in considering what a school's mission should be in the 21st century.

- ***Create opportunities for your schools*** to systematically investigate how addressing matters of global significance can become a mainstay of a school's culture—reflected in its structures, practices, and relationships with people and institutions outside the school.

- ***Pilot new and strengthen existing approaches*** to promote global competence, from new course offerings in world languages and other internationally focused content to globally focused service learning and internships to international travel and virtual exchange opportunities for students and teachers.

- ***Feature best practices*** stemming from your schools and communities. Create conditions for interested stakeholders (teachers, administrators, parents, businesses) to reflect about the opportunities embedded in best practices and what can be done to support them and expand their reach.

Education policymakers: What can you do?

- ***Review existing policies, programs, and funding priorities*** to consider whether they systematically promote the development of global competence among all populations served by schools.

- ***Recruit, develop, and sustain personnel and policy review committees*** that have the knowledge, understanding, and desire to promote global understanding and perspectives in teaching.

- ***Envision and require formative and summative performance-based assessments*** to provide opportunities for students to demonstrate and develop global competence through authentic performances and other valid and equitable measures of learning.

Colleges and universities: What can you do?

- ***Prepare globally competent graduates*** who understand the world and are ready to participate critically and creatively in it through their chosen fields of work and study.

- ***Retool teacher preparation programs*** to integrate international learning opportunities and substantially strengthen requirements and support for developing the capacity among prospective teachers to teach for global competence.

- ***Encourage scholarly research and program evaluation*** to deepen understanding of the demands and opportunities of global competence education. Such work may range from revealing basic socio-cognitive processes involved in the development of global competence; to measuring the impact of diverse approaches to integrating global competence in K–12 curriculum, assessment, and instruction; to examining the role of global competence education in school improvement; to transforming poorly performing schools; and to taking well functioning schools from "good to great."

- ***Prioritize the development of global competence as part of the mission and institutional practice of higher education*** to ensure that learning how to investigate, communicate, and act within a global economy and interdependent world becomes an essential element of what it means to be a well educated person in the 21st century.

The discourse on global competence in this volume—its rationale, definition, and manifestation in educational practice and policy—is meant to serve as both inspiration and practical guidance for all those who seek to prepare students to engage the world. The variety of student work examined here and the experiences of teachers from across the world show that teaching and learning for global competence is within the reach of every type of school. It is our hope that you will use the ideas—and incorporate your own—to ensure *every student* is well prepared for the challenges and opportunities of an interdependent, global environment.

APPENDICES

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GLOBAL COMPETENCE MATRIX

Global Competence is the capacity and disposition to understand and act on issues of global significance.

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students recognize their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences.	Students translate their ideas and findings into appropriate actions to improve conditions.
Students: ■ Identify an issue, generate a question, and explain the significance of locally, regionally, or globally focused researchable questions. ■ Use a variety of languages and domestic and international sources and media to identify and weigh relevant evidence to address a globally significant researchable question. ■ Analyze, integrate, and synthesize evidence collected to construct coherent responses to globally significant researchable questions. ■ Develop an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions.	Students: ■ Recognize and express their own perspective on situations, events, issues, or phenomena and identify the influences on that perspective. ■ Examine perspectives of other people, groups, or schools of thought and identify the influences on those perspectives. ■ Explain how cultural interactions influence situations, events, issues, or phenomena, including the development of knowledge. ■ Articulate how differential access to knowledge, technology, and resources affects quality of life and perspectives.	Students: ■ Recognize and express how diverse audiences may perceive different meanings from the same information and how that affects communication. ■ Listen to and communicate effectively with diverse people, using appropriate verbal and nonverbal behavior, languages, and strategies. ■ Select and use appropriate technology and media to communicate with diverse audiences. ■ Reflect on how effective communication affects understanding and collaboration in an interdependent world.	Students: ■ Identify and create opportunities for personal or collaborative action to address situations, events, issues, or phenomena in ways that improve conditions. ■ Assess options and plan actions based on evidence and the potential for impact, taking into account previous approaches, varied perspectives, and potential consequences. ■ Act, personally or collaboratively, in creative and ethical ways to contribute to improvement locally, regionally, or globally and assess the impact of the actions taken. ■ Reflect on their capacity to advocate for and contribute to improvement locally, regionally, or globally.

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GLOBAL COMPETENCE MATRIX FOR THE ARTS

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students use the arts to recognize their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences using art.	Students use the arts to translate their ideas into appropriate actions to improve conditions.
Students: ■ Identify themes or issues and frame researchable questions of local, regional, or global significance that call for or emerge from investigations in the arts. ■ Identify, observe, and interpret a variety of domestic and international works of visual or performing art, materials, and ideas, and determine their relevance to globally significant themes. ■ Analyze, integrate, and synthesize insights to envision and create an artistic expression of globally significant themes, and submit this expression for critique. ■ Engage in critical conversations based on compelling evidence and consider multiple perspectives to draw defensible conclusions about the effectiveness of a work of art to illuminate globally significant themes.	Students: ■ Recognize and express their own artistic perspectives and sensibilities, and determine how those are influenced by their background and experience in the world; conversely, determine how their perspectives and sensibilities about the world are influenced by their experience in the arts. ■ Examine how the artistic perspectives and sensibilities of different individuals, groups, and schools of thought are influenced by their experience in the world and, conversely, how their views of the world are influenced by experience in the arts. ■ Explain how cultural interaction influences the development of artistic products, ideas, concepts, knowledge, and aesthetics. ■ Explore and describe how, despite differential access to knowledge, technology, and resources, individuals and groups produce meaningful art that enables human expression and connection around the world.	Students: ■ Examine how diverse audiences may interpret and react to artistic expressions differently. ■ Appreciate a variety of artistic expressions and use artistic repertoires, forms, or media to communicate with diverse audiences around the world. ■ Select and use appropriate technologies to enhance the effectiveness and reach of a work of art. ■ Reflect on how the arts impact understanding and collaboration in an interdependent world.	Students: ■ Identify existing and innovative opportunities to use the arts, personally and collaboratively, to contribute to improvements locally, regionally, or globally. ■ Assess options for the use of the arts and plan actions considering available evidence, previous approaches, and potential consequences. ■ Use the arts to act, both personally and collaboratively, in creative and ethical ways to contribute to improvements locally, regionally, or globally, and reflect on the impact of the actions taken. ■ Reflect on their capacity to advocate for and contribute to improvements locally, regionally, or globally through the arts.

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GLOBAL COMPETENCE MATRIX FOR ENGLISH LANGUAGE ARTS

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students recognize their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences.	Students translate their ideas and findings into appropriate actions to improve conditions.
Students: ■ Explore a range of domestic and international texts and media to identify and frame researchable questions of local, regional, or global significance. ■ Use a variety of domestic and international sources, media, and languages to identify and weigh relevant evidence to address globally significant researchable questions. ■ Analyze, integrate, synthesize, and appropriately cite sources of evidence collected to construct coherent responses to globally significant researchable questions. ■ Develop and logically and persuasively present an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions about a globally significant issue.	Students: ■ Recognize and express their own perspectives on situations, events, issues, or phenomena, and determine how that perspective has developed or changed based on exposure to a variety of texts and media from different periods and cultures. ■ Examine perspectives of other people, groups, or schools of thought within and about texts and media from around the world, and identify the influences on those perspectives. ■ Explain how cultural interactions within and around texts or media are important to the situations, events, issues, or themes that are depicted and to readers' understandings of those texts and media. ■ Explore and describe how differential access to literacy and to a range of works from different genres, periods, and places affects perspectives and quality of life.	Students: ■ Recognize and express how diverse audiences may perceive different meanings from the same texts or media and how those different perspectives effect communication and collaboration. ■ Use appropriate language, behavior, language arts strategies (reading, writing, listening, and speaking) and non-verbal strategies to effectively communicate with diverse audiences. ■ Select and use appropriate technology, media, and literary genres to share insights, findings, concepts, and proposals with diverse audiences. ■ Reflect on how effective communication in various genres impacts understanding and collaboration in an interdependent world.	Students: ■ Identify and create opportunities for personal and collaborative actions, using reading, writing, speaking, and listening to address situations, events, and issues to improve conditions. ■ Assess options and plan action based on evidence from text and media and the potential for impact, taking into account previous approaches, varied perspectives, and potential consequences. ■ Use language arts skills to act, personally and collaboratively, in creative and ethical ways to contribute to sustainable improvement, and assess the impact of the action. ■ Reflect on how effective reading, writing, listening and speaking contribute to their capacity to advocate for and contribute to improvement locally, regionally, or globally.

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GLOBAL COMPETENCE MATRIX FOR MATHEMATICS

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students recognize their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences	Students translate their ideas and findings into appropriate actions to improve conditions.
Students: ■ Identify issues and frame researchable questions of local, regional, or global significance that call for or emerge from a mathematical or statistical approach. ■ Select or construct appropriate mathematical or statistical models or approaches to address globally significant researchable questions. ■ Conduct, assess, and synthesize mathematical or statistical analyses to develop or review evidence, draw conclusions, and make decisions concerning globally significant questions. ■ Interpret and apply the results of mathematical or statistical analyses to develop and defend an argument about a globally significant issue.	Students: ■ Recognize and express their own perspective and understanding of the world, and determine how mathematics and statistics influence and enhance that perspective and understanding. ■ Examine how the perspectives of other people, groups, or schools of thought influence the ways mathematical and statistical findings are interpreted and applied, and, conversely, how an understanding of and access to mathematics and statistics influences those perspectives. ■ Explain how the development of mathematical knowledge is based on the contributions of different cultures and influenced by cultural interactions and how societies and cultures are influenced by mathematics. ■ Explore and describe how differential access to mathematical and statistical knowledge, technology, and resources affects both the perspectives and quality of life of individuals and society.	Students: ■ Recognize and express how diverse audiences may perceive different meanings from the same mathematical or statistical information and how that affects communication and collaboration. ■ Use appropriate language, behavior, and mathematical and statistical representations to effectively communicate with diverse audiences. ■ Select and use appropriate technology and media to model, analyze, represent, and communicate mathematical ideas for diverse audiences and purposes. ■ Reflect on how mathematics contributes to cross-cultural communication and collaboration in an interdependent world.	Students: ■ Identify and create opportunities to use mathematical or statistical analyses to enable personal or collaborative action that improves conditions. ■ Use mathematical or statistical descriptions, representations, or models to plan, weigh, and defend plausible and ethical actions for addressing a globally significant issue, taking into account previous approaches, varied perspectives, and potential consequences. ■ Use mathematics and statistics to support personal or collaborative, ethical, and creative action that contributes to sustainable improvement, and assess the impact of the action. ■ Reflect on how mathematics and statistics contribute to their capacity to advocate for local, regional, and/or global improvement.

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GLOBAL COMPETENCE MATRIX FOR SCIENCE

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students use science to investigate the world.	Students recognize their own and others' perspectives through the study of science.	Students communicate about science effectively with diverse audiences around the world.	Students use their scientific knowledge and skills to translate their ideas and findings into actions that improve conditions.
Students: ■ Identify issues and frame investigable questions of local, regional, or global significance that call for a scientific approach or emerge from science. ■ Use a variety of domestic and international sources to identify and weigh relevant scientific evidence to address globally significant researchable questions. ■ Design and conduct a scientific inquiry to collect and analyze data, construct plausible and coherent conclusions, and/or raise questions for further globally significant study. ■ Interpret and apply the results of a scientific inquiry to develop and defend an argument that considers multiple perspectives about a globally significant issue.	Students: ■ Recognize and express their own perspective on situations, events, issues, or phenomena, and determine how that perspective along with their entire understanding of the world is influenced by science. ■ Examine scientific ways of knowing and perspectives about science of other people, groups, and schools of thought, and identify the influences on those perspectives. ■ Explain how cultural interactions influence the development of scientific knowledge. ■ Explore and describe the consequences of differential access to scientific knowledge and to the potential benefits of that knowledge.	Students: ■ Recognize and express how diverse audiences may interpret differently and/or make different assumptions about the same scientific information and how that affects communication and collaboration. ■ Use varying scientific practices, behaviors, and strategies to verbally and non-verbally communicate scientific information effectively with diverse audiences, including the international scientific community. ■ Select and use appropriate technology and media to communicate about science and share data with experts and peers around the world. ■ Reflect on how effective communication affects scientific understanding and international collaboration in an interdependent world.	Students: ■ Identify and create opportunities in which scientific analysis or inquiry can enable personal or collaborative action to improve conditions. ■ Assess options, plan actions, and design solutions based on scientific evidence and the potential for impact, taking into account previous approaches, varied perspectives and potential consequences. ■ Act, personally or collaboratively, in creative and ethical ways to implement scientifically-based solutions that contribute to sustainable improvements, and assess the impact of the action. ■ Reflect on how scientific knowledge and skills contribute to their capacity to advocate for improvement locally, regionally, or globally.

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GLOBAL COMPETENCE MATRIX FOR SOCIAL STUDIES

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students recognize and understand their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences.	Students translate their ideas and findings into appropriate actions to improve conditions.
Students: ■ Identify issues and frame researchable questions of local, regional, or global significance that call for or emerge from investigations in the social sciences, ■ Identify and weigh relevant evidence from primary and secondary documents, using a variety of domestic and international sources, media, and languages, to address globally significant researchable questions. ■ Analyze, integrate, and synthesize evidence using knowledge, methods, and critical skills in the social sciences to deepen their understanding of and construct coherent responses to globally significant issues. ■ Produce an account based on compelling social scientific evidence and multiple perspectives that exhibits understanding of a global issue and that raises new questions and/or advocates for action.	Students: ■ Recognize and express their own perspective on situations, events, issues, or phenomena, and identify the cultural, social, economical, political, geographical, and historical influences that inform that perspective. ■ Examine the role of place, time, culture, society, and resources in the perspectives held by people, groups, and/or schools of thought. ■ Explain how individuals, societies, events, and the development of knowledge are influenced by the movement and interaction of ideas, goods, capital, and people. ■ Explore and describe how geopolitical differences, as well as access to knowledge, resources, and technology, affect the options, choices, and quality of life of people around the world.	Students: ■ Recognize and express how diverse audiences may interpret and use the same information in different ways and for different purposes and how that affects communication and collaboration. ■ Use the language of social scientists and adapt their modes of communication and behavior to interact effectively with diverse audiences. ■ Select and use technology and media strategically to create products, express views, and communicate and collaborate with people of diverse backgrounds. ■ Reflect on how communication contributes to or impedes understanding, collaboration, negotiation, and diplomacy in an interdependent world.	Students: ■ Identify and create opportunities for personal and collaborative action and civic engagement to contribute to sustainable improvements and quality of life. ■ Assess options, plan actions, and engage in civil discourse, considering previous approaches, varied perspectives, political viability, and potential consequences. ■ Act, personally and collaboratively, in ways that are creative, ethical, and informed by the knowledge and methods of the social sciences to contribute to sustainable improvement, and assess the impact of the action. ■ Reflect on their capacity to draw on the social sciences to advocate for and contribute to improvement locally, regionally, or globally.

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GLOBAL COMPETENCE MATRIX FOR WORLD LANGUAGES

INVESTIGATE THE WORLD	RECOGNIZE PERSPECTIVES	COMMUNICATE IDEAS	TAKE ACTION
Students investigate the world beyond their immediate environment.	Students recognize their own and others' perspectives.	Students communicate their ideas effectively with diverse audiences.	Students translate their ideas and findings into appropriate actions to improve conditions.
Students: ■ Use knowledge of language and culture to identify issues and frame researchable questions of local, regional, or global significance. ■ Use a variety of domestic and international sources, media, and experiences in the target language to identify and weigh relevant evidence to address globally significant researchable questions. ■ Analyze, integrate, and synthesize evidence, taking into account cultural and linguistic contexts, to construct coherent responses appropriate to globally significant questions. ■ Use their knowledge of language and culture to develop an argument based on compelling evidence that considers multiple perspectives and draws defensible conclusions about a globally significant issue.	Students: ■ Recognize and express their own perspectives and understandings of the world, and determine how language and culture inform and shape those perspectives and understandings. ■ Examine the perspectives of other people, groups, or schools of thought and how language and culture influences those perspectives. ■ Explain how cultural and linguistic interactions influence situations, events, issues, ideas, and language, including the development of knowledge. ■ Explore and describe how different levels of language proficiency and access to knowledge, technology, and resources affect opportunities and quality of life for individuals and societies.	Students: ■ Recognize and express how linguistically diverse people may perceive different meanings from the same words or non-verbal cues and how this impacts communication and collaboration. ■ Use the target language for interpersonal, interpretive, and presentational purposes, including appropriate verbal and nonverbal behavior and strategies, to communicate with the target culture. ■ Select and use appropriate technology and media to connect with native speakers of the target language, present information, concepts, or ideas of global significance, and/or develop creative products within the target language. ■ Reflect on how the use and knowledge of diverse languages promotes effective communication, understanding, and collaboration with and within various cultures.	Students: ■ Use their native and studied languages and culture to identify and create opportunities for personal or collaborative action to improve conditions. ■ Use linguistic and cultural knowledge to assess options and plan actions, taking into account previous approaches, varied perspectives, and potential consequences. ■ Use their native and studied languages and cross-cultural knowledge to act, personally and collaboratively, in creative and ethical ways to contribute to sustainable improvement, and assess the impact of the action. ■ Reflect on how proficiency in more than one language contributes to their capacity to advocate for and contribute to improvement locally, regionally, or globally.

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