Internationally Inclusive Science Education: Addressing the Needs of Migrants and International Students in the Era of Globalization

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Given the globalized nature of education, educators must not only prepare themselves, but also their diverse students to become globally-competent workers—a responsibility that becomes clear when teachers and students find themselves in classrooms and communities with people who are culturally and linguistically different from themselves. What kind of education should students receive in order to be proficient in an international, multicultural society? Equally importantly, what kind of knowledge should educators have in order to teach in an increasingly globalized world? (Wiggan & Hutchison, 2009, pp. 1–2)

The main purpose of this chapter is to illuminate the issues facing migrant populations who are involved in education in the United States (USA) and discuss ways in which science teacher education can better incorporate their needs in order to help them reach their fuller scientific potentials. In this chapter, I propose what one may call *internationally inclusive teaching*, in consonance with the concept of culturally responsive teaching. In order to invest authenticity in this chapter, I will draw on my experiences as an international student and professional who has lived and worked in Africa, Europe, and the United States and has done research and committee work on internationalization of education.

This chapter will address the following activities and subtopics, in the context of science education:

- Introductory activity: Assessing a Ghanaian student for scientific proficiency
- Teacher education and global change: A call in need of a response
- Globalized education as a social justice issue in U.S. education
- The flat world of education: Globalized education in practice
- Refugees as an international education issue
- International education: Process and product cycles
- Globalization of education: The process and the tools

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- The interface between globalization and science teacher education
- The nature of immigrants in U.S. classrooms
- Internationally inclusive teaching and its implications for teacher training
- Conclusion and summary
- Culminating activity: Creating an internationally inclusive lesson plan—the whys and whats

Introductory Activity: Assessing a Ghanaian Student for Scientific Proficiency

Case #1

Kofi Mensah was a good student in Ghana, West Africa, a country known for its intellectual prominence. He already had his bachelor's degree (with honors) before arriving in the United States. After working as a scientific researcher in molecular biology, he decided to become a certified teacher. He therefore enrolled in a Lateral Entry program in order to be certified to teach science.

Kofi arrived in the methods class full of confidence in his science content knowledge; therefore, he was rather surprised that his methods instructor assessed his first assignment as poor on many levels. First was the issue of spelling: Kofi spoke three languages, one of which was British English. Neither he nor his instructor knew that British English spelling was different from "American English" spelling and that several expressions and science vocabulary terms were spelled differently. For this reason, both Kofi and his instructor totally misunderstood each other: Kofi, himself, thought that his instructor did not speak properly and was lazy in speech and writing (because Ghanaians believe that educated people should not make petty mistakes—a sign of intellectual inferiority); on the other hand, his instructor thought that Kofi did not speak or write properly. This was a bad start for both of them, because they began the class with a misperception of each other, leading to a negative, self-fulfilling prophecy. In the end, Kofi, a promising science teacher, left the program frustrated.

Case #2

Chu-li was a teaching assistant in a Chinese university when she got the opportunity to move to the United States. Because of her science background, she easily got a job in a large private school, where she taught physics. Her school, however, had the policy that all their teachers needed to be certified, and so she enrolled in a certification program at the local university.

It must be noted that although Chu-li was a good teacher of content knowledge, she had serious classroom management problems. It was partly for this reason that her school thought her enrolment in a certification program would help her to become more proficient in working with her students. Meanwhile, the school used

the formal system of classroom observation and supervision to assess Chu-li's work. They found her to be very traditional, yet unassertive. These characteristics, they believed, may have contributed to her loss of control in her class.

While in the licensure program, Chu-li's instructors realized that although she could speak English very well, her writing skills were not strong. For this reason, she could not articulate her content knowledge well enough for student understanding. However, she was very capable of engaging in a solid conversation about the content matter—so well so that they were surprised that there was such a gap in her English writing skills.

Chu-li had another issue: she would not openly engage with the class or the professor, although outside the classroom, she was relatively more gregarious.

Questions

1. *From your perspective, what are some of the factors at play in the teaching lives of Kofi and Chu-li?*
2. *What are some of the factors that may distinguish Kofi's issues from Chu-li's?*
3. *In terms of their backgrounds, what do you know about their cultures that could (a) enhance and (b) impede their lives* as teachers *in the United States?*
4. *Similarly, what do you know about their cultures that could (a) enhance and (b) impede their lives* as students *in the United States?*
5. *Based on the responses in questions 3 and 4 above, what are some of the solutions you would suggest for those working with both Kofi and Chu-li?*

Teacher Education and Global Change: A Call in Need of Response

In October 2010, Arthur Levine wrote an article titled "Teacher education must respond to changes in America." The subtitle of this article, however, provided the major thrust of the article; it was captioned "Teacher education must adapt to the same changes in the economy, demographics, globalization, and more that are prompting change in K-12 education." In this article, Levine noted that the current world transformation prompted by deep demographic, economic, technological, and global changes is rather rare and that such magnitude of change was last seen as far back as the Industrial Revolution. He asserted that teacher education, in its current form, was created for a different era in time, but that time has passed, and that "even if the nation's teacher education programs had been perfect, the best in the world, they would still need to change today" (p. 20). His rationale for this assertion is that when change occurs, social institutions are the last to respond and make appropriate changes; therefore, they get left behind. In establishing the global connection to the need for change in "America's" teacher education programs, Levine implied that globalization has necessitated a change not only in the school curriculum but also in universities in general. He reasoned that global transformation will

force universities to work across national boundaries. By extrapolation, therefore, Levine makes the argument that globalization demands a response from teacher education, and soon.

Globalized Education as a Social Justice Issue in U.S. Education

Globalization or internationalization of education is a process that is rather nebulous in U.S. education because it lacks a clear definition and objectives. For this reason, it is mostly conflated with student or faculty travel abroad, with no systemic implications or benefits across programs. It is often added—not incorporated—into programs as remote afterthoughts and is left to students to decide as to whether they would like to invest any efforts in it or not. For the most part, faculty lack the incentive to become globally proficient, and since one cannot teach what one does not know, such faculty cannot incorporate international proficiency in their instruction. This is no different from the issue of multicultural education. Even now (decades after the Civil Rights Movement and the birth of multiculturalism), it is still a contentious course for many instructors—at a time when many school districts are populated by mostly students of color. Because some educators do not see the need for multicultural education, are not conversant with the contents, they cannot adequately prepare their students for diverse schools. The sad result, however, is that such teacher candidates are cheated by not being capable of working effectively in diverse schools.

It can be argued that just as Free Appropriate Public Education (FAPE), a part of Individuals with Disability Education Act (IDEA) (passed in Congress in 1975 as Public Law 94-142 and was later reiterated in 1990 as IDEA), had the objective of ensuring that all U.S. students were properly educated, a U.S. teacher who is not prepared to work with diverse learners has not been given appropriate education. Furthering this argument to globalization, one can argue that in an era when U.S. students are expected to compete with students from all over the world for their livelihoods, "appropriate" education should include adequate exposure to globalization and related issues. Furthermore, their teachers should be knowledgeable enough in globalized educational concepts so as to be proficient in working with (a) U.S.-born students and (b) people from different parts of the world.

The Flat World of Education: Globalized Education in Practice

Since time immemorial, trans-regional or international education has been a feature of education (compare, for example, the intercultural education of Daniel and his three colleagues in Daniel 1:1–5 in the Old Testament of the Bible. In this narrative,

Nebuchadnezzar, king of Babylon, besieged Jerusalem and sent four Israeli boys to be educated in the language and literature of the Chaldeans). In recent times, however, the phenomenon of globalization has sparked an interest in international education, as the shrinking world has accelerated the mobility of teachers and students across the globe. Because of the immensity of this phenomenon, there is a large body of literature that addresses issues of migrations across the world. In terms of Africa alone (whence the author hails), there is a general agreement that at least tens of thousands of skilled professionals, such as medical doctors, nurses, engineers, and teachers emigrate each year, and many of these emigrants move to Western countries. Take, for example, Ghana, a small West African country:

> The Ghanaian population in the United States has grown rapidly over the last decade and a half, particularly between 1990 and 2000, when the population jumped from 20,889 to 65,570, or 210 percent. Family reunification, refugee resettlement, and the strong economy of the 1990s are the factors driving this increase. Many believe these figures to be under-counts, and nonofficial estimates reach as high as 300,000. (Bump, 2006, paragraph 48)

Taking South Africa, as another example, about one-third of all the emigrating professionals were somewhat involved in education (Bailey, 2003). A National Education Association (NEA) November 2003 report estimated that 10,000 international teachers were working in U.S. public school systems on nonimmigrant or cultural exchange visas. Although the teachers mostly come from English-speaking countries such as India, Nigeria, Ghana, the Philippines, Canada, and the like, there are also international teachers from many non-English-speaking countries including France, Germany, Russia, and Mexico (NEA, 2003).

In higher education, professorial exchanges are much more common and widely documented, since the concept of "university," a term that hints at "universality" of knowledge and program transferability is often taken for granted. In K-12 education, however, the literature on teacher migration is scanty, especially in the context of U.S. education. Notwithstanding, this area of research is becoming more interesting especially due to the shortage of mathematics and science teachers in the United States (e.g., Hutchison, 2005).

Student migration has also been a perennial part of the landscape of international education, since higher education (primarily the universities and colleges)—the chief instruments of enlightenment and modernization—have sought to spread human wisdom partly through the agencies of colonization, benevolence, and opportunities for social advancement. In this connection, it is noteworthy that:

> In 2002, countries like the United States (U.S.), United Kingdom (U.K.), Germany, France, Australia, Japan, and Spain were, respectively, the leading host countries for international students seeking higher education. Conversely, students from these countries chose China, India, Greece, Turkey, Morocco, Algeria, Malaysia and South Korea as some of their top destinations for study abroad (Davis, 2003). These trends were consistent in 2008, where the U.S. and U.K. outpaced all other nations as the leading host countries for international students, while India and China led the non-Western nations as the choice destinations for international study (Institute of International Education, 2008). (As cited in Wiggan and Hutchison, 2009, p. 1)

Refugees as an International Education Issue

In addressing the issue of globalization and internationally inclusive teaching, the growth of refugees across the world—and their consequent need for education—has become an issue of global interest. Refugees are people who have been forced to leave their home country because of one or several reasons. Often, they leave because of political tyranny, wars, or natural disasters. Because refugees often leave their countries under traumatic conditions, they often leave their native countries with little personal effects, and so experience poverty, and are also vulnerable to mental health issues. In recent decades, the many conflicts around the world have increased the number of refugees in the United States, including Bosnians from Eastern Europe, Sudanese, and Southeastern Asia's Vietnamese, Cambodians, Laotians, and the Hmong.

Besides financial poverty, one of the landmark characteristics of refugees across the world is the lack of educational preparation. Many enter their new countries without appropriate educational foundations, especially when they arrive from countries engaged in long-term wars. For this reason, many of them have serious educational deficiencies, even if they are excited about learning. Many are illiterate even in their own languages, and like the child soldiers in many parts of the world (e.g., Afghanistan, Colombia, Liberia, Sudan, Sri Lanka, and Vietnam), cannot read or write. In cases where refugee children have experienced an interruption in their education, they are referred to as *students with interrupted formal education* (SIFE). Besides, these children are also candidates for English as Second Language (ESL) programs in schools.

Whereas the refugee issue is a secondary aspect of what may be called voluntary migration in search of better economic and life outcomes, the pedagogical needs of this population have some overlaps with conventional migrants, of which there are many, since the United States has a generous immigration policy (The Center for Immigration Studies [2011] noted that in the decade of 2000–2010, the United States absorbed over 13 million legal and illegal immigrants). First, both populations have some level of anxiety as they navigate their new social environments, and therefore can benefit from the beneficence of their host country. Second, they often have different pedagogical orientations with some concomitant, related matters (issues which are addressed later in this chapter). Notwithstanding such apparent concerns, they are generally disposed to hard work and are willing to learn hard in order to succeed in their new environments. Teachers often note that these are generally hard-working students who are grateful to be in school, granted their past experiences.

In summary, global migrations of teachers and students are not only a part of our past, but will continue to be a significant part of the future of U.S. education. Since these migrations are already a significant part of America's higher educational landscape, science teacher education should address the opportunities and the challenges they present.

International Education: Process and Product Cycles

It can be argued that international education has been one of the primary fuels of accelerated globalization. This acceleration has occurred partly because globalization is a process that feeds on itself, and, once begun, is not only self-sustaining, but apparently accelerative. In the next sections, the world economy and its relationship to globalized education will be explored. These two processes will be used to illustrate why it is important to address issues related to international education in today's world.

Internationalized Education as an Appendage of the Globalized Economy

The global economic recession that was observable in the U.S. economy from 2007 started more tamely and regionalized; however, because large international companies like AIG, Bear Stearns, and Lehman Brothers had globalized interests and obligations, it did not take long before the economic problem that initially appeared to ordinary U.S. citizens as a local (national) recession rippled across the globe, along the axis of international trade. In 2011, as the recession took its toll on inordinate numbers of jobless U.S. citizens, it became more obvious to ordinary U.S. citizens that companies can easily move their headquarters to any part of the world that offered them tax advantages and incentives. The lesson was also learned that the world economy is one giant, interconnected matrix. It is ever-growing, ever-connecting, and very complicated. More importantly, the sheer inertia of globalization compels whatever is in its way to succumb to its forces, and that includes education.

To international education observers, the events noted earlier come as no surprise, because the world economy has a necessary appendage: internationalized education, without which it cannot function. It is through globalized education that globalization of the economy is possible. In its fundamental form, globalization is a means of homogenization, a process by which world ideas and technologies can be articulated across national, cultural, and other conceivable barriers without undue impediments. The mechanism for achieving this homogenization is education: it is the mediating, interconvertible currency for global transactions. In other words, education is a kind of lingua franca for getting peoples of the world to be able to talk with each other, notwithstanding cultural, religious, philosophical, and other differences. Given the dominance of the world economy and human will to migrate in pursuit of better economic and life opportunities, globalized education is a process that deserves its fair intellectual space.

Globalization of Education: The Process and the Tools

If internationalized education is indeed an appendage of the globalized economy, then the question arises: "By what process did globalization of education take place?" The worldwide revolutionary events of the last few years, especially 2011, have taught us that significant amounts of teaching and learning are taking place over the Internet, at amazing speeds. Within a matter of weeks, globalization tools such as television, cell phones, and personal computers had spread the revolution started by the self-immolation of a lone Tunisian man into a Northern African and Middle Eastern revolution. Thus far, this revolution has toppled or shaken the leaderships of Tunisia, Egypt, Libya, and several others such as Syria, Yemen, Saudi Arabia, Qatar, and others appear to be in progress. More importantly, it has educated peoples of the world in fundamentally different ways. In this revolution, English was the dominant language (the lingua franca), and specific kinds of content knowledge and pedagogical tools were used. These issues will be further discussed in this section so as to illustrate the notion of globalization as a process that is promoting the homogenization of education.

As noted earlier in this chapter, in the past, globalization of education took place primarily along the axis of international travel of students and professors (or K-12 teachers, in limited cases), either in exchange programs or in formal learning arrangements. With the advent of the Internet, however, different technologies have created vast opportunities for people across the world who aspire to the lifestyles of the West to interface with Western education. As an African immigrant, the author is very familiar with this phenomenon, whereby many people in the developing world try to "dress like Americans" and speak with what they call "American accent," often heard in U.S.-based movies. Whereas, in the past, the movies transmitted U.S. culture across the world, the Internet goes far beyond this role: it also educates, for better or for worse.

The English language as the global lingua franca. As an African student in Hungary in the late 1980s, it was interesting to note that the English language had already made its mark as the global lingua franca. There were Hungarian institutions of higher learning (including the one where I was a fellow—Hungarian Academy of Sciences) that were internationalized and taught their courses in English only. These programs attracted people from all over the world, and the instructors were better paid. As a relatively good speaker and writer of the English language, I was something of a super star, because most of the less-capable speakers of English wanted to get the opportunity to practice their spoken English with me. In fact, people viewed the English language as a tool for professional progress. In this connection, I had the opportunity to work with a professor of Pharmacology in the international program. In the same vein, there are English language programs in schools across the world, from Saudi Arabia and Egypt's "American Schools" to China, Korea, and Japan, and many specialized schools where Teaching English as a Second Language (TESL) programs flourish.

Globalized content knowledge. In terms of content knowledge, one can convincingly argue that, with all its limitations, Western knowledge and values, especially those of the United States, are perceived in the world as the ideal, for several reasons. First, the United States, with all its unique challenges, is still the world's most powerful nation. Although China is a large nation in terms of population and land mass, the world still looks to the United States as its main Superpower. U.S. movies and entertainment industries have long been the major exporter of United States' ideas and culture; therefore, it is one of the top attractions for migrants. Second, Western knowledge is valued because it is the gateway to opportunities in the Western world. Until recently, when China, India, Brazil, and other emerging economies began to offer migrants attractive opportunities, most educated migrants viewed Western, developed countries as not only economically promising but also inviting. This is so because many migrants were themselves from past colonies of such Western countries and had been educated under the corresponding colonial systems. For this reason, it was easier to transfer educational credentials to the receiving country. Another reason Western education and values are perceived in the world as the ideal to migrants is that the West has long embraced relatively more transparent, democratic values and egalitarianism. Such human values appear to resonate with most humans, thus explaining several historical revolutions and revolts in environments where there is a paucity of such basic human values. Not surprising, therefore, international migrants prefer to move to such environments.

The notion that a significant part of globalized content knowledge is Western is not difficult to illustrate. For example, from January through September of 2011 (a time period captioned "Arab Spring") when large masses of people in North Africa and Middle East were clamoring for democracy in their countries, it was notable that international broadcasting networks across the world featured several ordinary protesters who spoke English with U.S. accent and were disposed to U.S. values. They wanted Western-type, democratic governments and tacitly invited Westernized, democratic nations, such as the United States, Britain, France, and Westernized nations, such as Turkey, to support their revolutions. They proffered egalitarian views, and asserted that they have the right to self-rule and self-determination. Needless to mention, many of these youth are products of Western, or home-grown Westernized education.

Globalized pedagogical tools. Not surprisingly, the Internet is, by far, the singular medium by which the world is learning. Even in the developing world, it is notable that the use of the computer and computer-based products and applications (including smart phones) is commonplace. Over the last decade, as many previously captioned "developing nations" such as China, India, Vietnam, and Ghana have become "emerging economies," there has emerged a reverse migration "back home." This is a phenomenon whereby people from Western countries who migrated from these emerging economies are going back to their native lands with strong technological knowledge. These people set up Internet cafes and accelerate the technological know-how in their countries. For this reason, it is common for even farmers in eastern Africa to manage their farming accounts on their cell phones—a technology that is used at a relatively higher functionality in such parts of the world, due to the

high cost of actual computers. Besides, CNN and BBC news outlets are common in the homes of remote villages of Ghana, for example, and, for that reason, there are many Ghanaians villagers who are very conversant with world affairs. Lastly, the Arab Spring revolutions mentioned earlier were captioned by some as the "twitter revolution," because of the high usage of social media such as tweets and Facebook to spread information regarding revolutionary activities.

In summary, accelerated internationalized education and globalization have gone hand-in-hand, and the former may have even accelerated the latter. In his book, *The World is Flat: A Brief History of the Twenty-First Century*, Thomas Friedman emphasizes that globalization has created a world in which individuals of the world are in competition with each other, and time and space are no longer limiting factors to this competition. For all practical purposes, Friedman is right, and it is internationalized education that helps to make him so.

The Interface Between Globalization and Science Teacher Education

As noted earlier, human migration is a natural, unstoppable process. For this reason, teacher education programs are likely to have immigrant students whose needs should be understood in order to better help them to become effective teachers in the United States. This section will explore the nature of immigrants, the specific issues facing this population, and discuss different ways to incorporate their needs into teacher education.

The Dichotomy of Who Does Science: Capable Students Who Are Disabled by Systemic Challenges

In this era of globalization, if science education is to effect change in teachers' and students' worldviews of "who can do science" and "who does science," an understanding of the issues that face a significant teacher and student constituencies—that is, international teachers and students in the United States—may need to be addressed in order to increase their teaching and learning capacities. For example, whereas international and immigrant students constitute a large portion of science majors and recipients of science degrees in the United States, these same often students face formidable challenges in their education. Similarly, immigrant teachers in the United States face issues which mitigate their contribution to science education. In a sense, one may argue that there is a systemic disabling process that selects those who can do science and those who do science.

The systemic disabling process that selects those who can do science and those who do science occurs because there are capable students who are challenged by

structural issues. Such students include unconventional learners, students of color, and students from misunderstood cultures. The latter population includes international students in general, and in recent decades, refugee students and students with interrupted formal education (SIFEs). In both theory and practice, the thousands of immigrant teachers who often seek recertification in the United States in order to participate in science education should be included in this population. In order to fully include these populations in science education, their challenges must be understood so as to mitigate them.

The Nature of Immigrants in U.S. Classrooms

A Comparison of International Teachers and Students and U.S. People of Color

Although immigrant populations are different from U.S. citizens in many ways, they share some significant similarities with marginalized populations in the United States. This section will compare these two populations in order to illuminate how an expansive view of culturally responsive instruction can serve the needs of both populations.

Similarities Between Immigrant Populations and U.S. Students of Color

- *Existential difference*. By definition, all immigrants are de facto foreigners, at least for first-generation immigrants. The notion of being a foreigner instills a sense of difference or "otherness" of immigrants from the "standard" population. Since U.S. people of color have a sense of difference from the White majority population (the population that is the tacit, cultural standard), immigrant populations share the common characteristic of "otherness" with them.
- *Linguistic difference*. One rather unsuspecting difference between immigrant populations and U.S. marginalized populations is that often they speak with some linguistic departures from "United States Standard English." Whereas immigrants often speak with their own peculiar, regional, or continental accents, certain U.S. marginalized students may speak with strong influence of the local vernacular or accent. In this connection, it may be interesting to note that low-income Whites may be included in this micropopulation.
- *Nonverbal communication*. Closely related to linguistic difference is the way in which different populations use nonverbal communication. In this regard, it is helpful to understand Edward Hall's (1976) notions of high- and low-context cultures. Whereas the "standardized" European-American's nonverbal

communication is tilted towards low context, people of color in the United States are more oriented towards high context. In functional terms, **high-context** cultures are generally found in traditional societies with long histories and long-held assumptions. Many things are left unspoken, but well understood. Therefore, silent, body language has evolved to become a significant part of communication. On the other hand, **low-context** behaviors are prevalent in the West and are important in pluralistic societies where the need for clear, unambiguous verbal explanations for behaviors and actions is necessary (ibid.). A related example is the issue of eye contact, which is often avoided by subordinates in traditional, hierarchical societies as a sign of respect for their superiors, but the reverse is taught in the United States, interestingly, as a sign of respect and attention. In effect, immigrant populations are likely to find themselves as users of one form of nonverbal communication or the other, depending on their country of origin.

- *Cultural and worldview*. Because many U.S. micro-populations are still connected to their ethnic cultural values, U.S. people of color maintain cultural traditions that are distinct from that of the White majority. Since different cultural traditions create different worldviews, it can be argued that students of color in the United States are likely to share a differentiated worldview with immigrant populations, even if in different degrees.

Differences Between Immigrant Populations and People of Color in the United States

The differences between immigrant populations and U.S. people of color are better discussed in the context of the challenges these teachers face when working within U.S. classrooms. The purpose of this section is to address such issues.

To Friedman's (2005) assertion noted earlier (that the world is flat, thus insinuating a world of equality where there is equitable competition), a caveat must be inserted, that in the context of teacher education, traditional teaching and learning mostly involve personal migration of people, and once immigrants are in the new, local context, teacher education faces peculiar challenges that must be resolved. Many international students and prospective immigrant teachers encounter several challenges in their pursuit of education in U.S. classrooms. For example, in her study of Indian students in U.S. classrooms, Kaur (2007) found that these students encountered challenges that were culturally specific. For example, the students were more reserved in the classroom and were reticent in engaging in classroom discussion. They also had different learning habits: they learned in groups, mostly among themselves. Hutchison's (2005) research on international teachers in United States has shown that there are several peculiar issues (largely sociocultural and pedagogical shocks) facing this population in their attempts at working in U.S. classrooms. His findings were corroborated by Washington-Miller (2009), who noted that Caribbean immigrant teachers in London had similar challenges, including shock, loss of confidence, impairment of self-esteem, lack of support, financial

constraints, and perceptions of abuse by their own students. From both research and personal experience standpoints, these are indeed general immigrant educational issues and affect both immigrant teachers and students. Therefore, they are important considerations for the implementation of what one may call internationally inclusive teaching. Hutchison's (2005) findings include the following:

- *Culture shock*. Immigrant teachers (and students) are likely to experience social and culture shock by dint of differences of lived experiences in different countries. Culture also extends to the differences in teaching approaches across cultures—an issue that was termed *pedagogical shock*—explained in this section.
- *Systemic barriers*. Different school systems are set up differently, based on different educational philosophies. For example, in many parts of the world, there are national standards, and the administrative set-ups are different. Students may have assigned seats all day, even in high schools, and it is the teachers who move around different classes during the school day. Besides, science teachers may have the specific help of laboratory technicians or assistants who order supplies, prepare, and set up laboratory experiments. Such teachers may be rather surprised that, as science teachers in the United States, they need to assume the role of the laboratory technician, as well as teach their classes, and even help clean up.
- *Assessment issues*. Unlike the U.S. assessment system where it is easy to earn an A grade, many school districts around the world make it much more difficult to earn an A. Hence, differences in assessment philosophies across national barriers can potentially become an issue for immigrants.
- *Communication issues*. Besides the fact that international teachers may have different accents, there are different spellings, expressions, and idioms that can pose as instructional barriers when teaching across national barriers.
- *Teacher-student relations*. The U.S. society is relatively more egalitarian: it is free and open and has much less hierarchy. Partly for this reason, teacher-student relations are relatively unencumbered by social rules, and students communicate with their instructors at ease. Conversely, however, teachers from traditionalist societies have a problem with students being too close and not honoring the teacher-student hierarchical gap.
- *Pedagogical approaches*. Perhaps, contingent on their teacher-student relations, U.S. students expect their teachers to be relatively active and hands-on. On the other hand, the teaching cultures of traditionalist societies are more lecture-based and follow the sage-on-stage approach. Immigrant teachers are therefore more likely to experience a kind of teaching-based culture shock: a pedagogical shock. In the same vein, migrant students who are used to the sage-on-stage approach to teaching would also experience the corresponding shock, from the perspective of the learner in a different pedagogical culture.

The abovementioned challenges facing immigrant teachers and students signify one major point: migrants from different parts of the world may enter the United States with significant differences in their pedagogical experiences and expectations that U.S. teacher education must address. The literature on the internationalization of teacher education in the United States has been critical of the fact that

U.S. teacher education has not been adequately responsive to the need for creating what may be termed internationally inclusive pedagogy. In addressing this issue, Kissock and Richardson (2010) note that "it is time that we heed the extensive literature calling on us to internationalize our teacher education programs and bring a global perspective to decision-making, in order to prepare globally minded professionals who can effectively teacher any child from, or living in, any part of the world" (p. 89).

Internationally Inclusive Teaching and Its Implications for Teacher Training

In their 2008 article, "Developing into similarity: global teacher education in the twenty-first century," Loomis, Rodriguez, and Tillman rightly propose (albeit in lamentation of the forceful, bulldozing effects of globalization) that "the information systems of markets—economic, political, and social—are converging under the pressure of the rule-making function of institutions" (p. 233). They note that globalization has the effect of forcing both private and public institutions to create standards which are often blind to local needs. Notwithstanding this critique, they yield to the fact that the power of globalization—an unstoppable process—has forced teacher education standards to become more homogenized in order to serve what may be perceptively viewed as common globalized standards. Although Loomis, Rodriguez, and Tillman do not appear to argue in favor of globalization per se, they raise an important point: context matters, and when the teacher education is not responsive to local needs, the power of education to create local change is lost.

Embracing the fact that globalization is an inextricable part of U.S. education, more researchers are taking an interest in related issues, and that is being reflected more in the literature. Reyes Quezadas (2010), in an editorial comment in *Teacher Education* journal, noted that internationalization of teacher education is a part of the skills we need to offer our preservice teachers in order to become competent in the twenty-first century. He poses several questions that he deems critical in creating that competent teacher, including the following:

1. How do we define internationalization in teacher education, and what does it mean to have international competence in education?
2. How can colleges and schools of education ensure that all teacher education candidates are competent and have the knowledge, skills, and dispositions to be effective intercultural teachers in an era of globalization?
3. What is the role of teacher education curricula and programs in promoting teaching about world cultures and their peoples as they work with P-12 students? (pp. 1–2)

These questions will partly guide the discussion of what I propose for internationally inclusive teacher education, which are guidelines that address the needs of

immigrant teachers and international students alike. I will use Geneva Gay's culturally responsive teaching as the yardstick for proposing this model.

Gay (2000) defined *culturally responsive teaching* (CRT) as the use of cultural characteristics, experiences, and perspectives of ethnically diverse students for effective teaching. Gay based CRT on the assumption that when academic knowledge and skills are situated within the lived experiences and frames of reference of students, the knowledge is more meaningful at a personal level. Besides, CRT has a higher interest appeal, and is therefore learned more easily and thoroughly. Gay later refined her concept of CRT by adding that it should include several other considerations, including the capacity to demonstrate cultural knowledge and caring, the capacity to build a learning community within the cultural context, knowledge of cross-cultural communications, and the propagation of cultural congruity in classroom instruction. These elements are in harmony with the research regarding international teachers and students (c.f. Hutchison, 2005).

In light of the research noted thus far, internationally inclusive teaching should embrace several considerations, including (a) international, cross-cultural sensitivity, (b) internationally sensitive pedagogy or andragogy, (c) communication sensitivity, and (d) orientation to social, classroom, and educational cultures present in the United States. These considerations will be discussed next, with the tacit question, "How can international students be incorporated into the mainstream United States classroom?"

International, Cross-Cultural Sensitivity

The research on cultural knowledge and skills and their relationship to teaching and learning is well established (e.g., Atwater & Riley, 1993; Banks, 1993; Gay, 2000). In fact, the very concept of multicultural education rests on the foundation that, because United States is a multicultural nation, the interests of the different comprising cultures should be represented in schooling practices. In the same vein, since international students and teachers emigrate from countries with different cultural backgrounds, it is important to be considerate of their cultural differences. The question, however, is: How can instructors learn about all the cultures of the world so as to accommodate all international students? Whereas the direct answer to this question is that it is virtually impossible to learn about all the different world cultures, instructors can begin with certain fundamentals: learning the basics of cross-cultural etiquette. In an era of globalization, it should be considered a merely modest requirement to require instructors in higher education to have some currency in world affairs. There are basic materials that offer cultural information and cross-cultural etiquette. There are also several websites on the Internet that offer free information for international travelers, including common expressions and "dos and don'ts" in different cultures. Another means to achieve international, cross-cultural proficiency is to start small, by taking short diversity courses or workshops. When well taught, many diversity, cultural anthropology, and ethnic studies courses

include information addressing the composition of United States' different ethnic groups, which are mostly foreign in origin. As a long-time instructor of diversity courses and workshops, I would even add that there is a shortcut to such courses: respect for all humans. After all, "the similarities across all humanity have endowed all teachers with a universal human language, a kind of *pedagogical lingua franca* which resonates with all, and can be successfully used to reach all learners" (Hutchison, 2011, p. 244). This language includes kindness, smile, and a helping disposition.

Internationally Sensitive Andragogy or Pedagogy

In their discussion of foreign teachers in Chinese classrooms, Yao and Lu (2011) observed that foreign teachers taught Chinese students using the pedagogical styles of their home countries. They noted that the foreign teachers did not follow the Chinese curriculum as strictly as the Chinese teachers would: they used the prescribed textbooks as guides, instead of teaching from them, and augmented their teaching practices with their own personalities, knowledge, and experiences. Such a pedagogical style, although is embraced in the West, is rather frustrating to students who are "trained" to look for what may be perceived as "solid learning" of factual material so as to perform well on their standardized examinations, a high-stakes matter for themselves and their families.

International students and immigrants in general, especially those from emerging economies, reside in educational contexts which are often ruled by high-stakes assessments or examinations that are used for selection of the best students for better educational and life opportunities. In such educational environments, students are "trained" to listen for long periods of time to fact-based lectures from sage-teachers. Often, these students also come from what may be called *listening cultures*, where children are seen, but not heard. They can listen for long periods of time and are reticent at asking questions in class. If they have any questions, they instead consult either their own classmates or their textbooks. These students can benefit from a "buddy system," whereby a willing U.S.-born student (or preferably a veteran foreign student) may be paired with them to provide mentoring. This mentoring partnership would also help the new student in the areas of language and cultural exposure, so as to mitigate the effects of culture shock.

As a former international student from a listening culture in both Europe and the United States, the author is very familiar with the frustration that international students face in U.S. classrooms. For a start, it takes several months at least, before international students begin to get used to the pedagogical styles found in U.S. classrooms—a time span that covers one semester (and thus a whole course). For many students, the practical consequence is the loss of the first set of courses, as they struggle to navigate them.

Such students would benefit from specific orientations, a topic that is addressed in this section. Many students are also self-conscious, especially if they speak

with an accent, and are the only foreigners in the course or program. Such students may exhibit what is termed the *minority effect*, a process whereby they try to become invisible in class, a part of which is to keep quiet (Hutchison, 2009). Ultimately, students experiencing the minority effect are disadvantaged in their learning. Internationally sensitive pedagogy therefore involves finding ways to incorporate the emotional and psychological needs of international students in the course. This may take the form of lowering the *affective filter* (Krashen, 1982) or the shame factor of the students, so as to make them comfortable in speaking out or participating in course discussions. Another way to show sensitivity to international students is not to call them out in class, unless one is familiar with their levels of confidence in speaking out in class. In a research on international teachers, one of the participants from Britain noted that, as compared to U.S. students, British students are relatively shy and are not eager to speak out in class. In a part of research interview addressing this issue, this British teacher, pseudo-named Mary, noted the following:

> Mary: Definitely. It is different: They [U.S. students] will answer back. I find that United States students or students who've been to an American school are much happier to stand up and say things, like they would stand up in front of an assembly and speak and they have the confidence to do it. I have some British students [and] I can't get them to say anything in the class. It's like me. I don't like standing up and speaking in front of people. There's a natural reticence, certainly with Brits, to get to stand up and speak, but the American would either answer back or they would contribute, or they're happy to have a dialogue with you.
>
> And it's a confidence [issue], I think. I don't know where it comes from, but we have noticed it—the other British teachers and I always agree that getting one of the American students to stand up to do a presentation [is easy], but you try to get a Brit to do it and … they're much more reserved. And I think other nationalities are the same. I don't know about other Europeans, [but] some of our Asian students are quite reserved; some of our African students are quite reserved: They won't do it. They find it difficult to stand up and deliver. Whether it's a language thing or not, I don't know … There's no reason for Brits not to do it, but they won't say anything. On the whole, they're quiet. (Hutchison, 2005, p. 169)

Communication Sensitivity

Effective teaching and learning are processes that are mediated by communication. It is partly for this reason that in many truly international programs, foreign students who speak different languages are often provided with significant language immersion experiences and tutelage before they begin taking content courses. Given that different parts of the world have different communication styles, it should come as no surprise that communication barriers are indeed a major issue in international education. Fortuijn (2002) noted that "the problem of language is a problem of understanding" and that language involves "finding the right words, the right idioms, and the right nuances; it is a problem of pronunciation and audibility, tempo, tone and tune" (p. 266). He added that even people who speak good English may have problems with idioms and nuances. Communication issues for international

students and teachers therefore involve challenges ranging from differences in the meaning of individual words, accents, differences in the meanings of expressions, and even styles of communication.

Another level of communication barriers in international education has to do with communication etiquette. Phillip Gin (2004) observed that it is important to pay attention to the unspoken standards of communication rules across cultures, since they may differ significantly. For example, in many Asian countries, it is impolite to be disagreeable. Therefore, asking "yes" or "no" questions may often lead to misunderstandings. Gin illustrates his point by noting that during an international conference in the United States, when explaining expectations and regulations to Asian guests, they usually said "yes" when asked if they understood what was explained—even if language barriers prevented them from truly understanding. For them, to reply "no" would show disrespect for the instructor, implying that the explanation was incompetently provided (ibid.). This same observation is somewhat applicable to people from listening cultures, who are often concerned with face-saving, or shame avoidance. These cultures are more apt to use indirect forms of communication, especially when addressing challenging, personal issues, and these styles are a part of the process of being polite and for avoiding conflict.

Given the communication issues raised above, therefore, in the classroom, educators need to be on the lookout for differences that may pose as impediments to instruction. For example, in working with students of German origin—who are known to be more direct in the expression of their feelings—they may sound rude to the unsuspecting "American" (Kuhn, 1996), and even more so in potential interactions with Asian or African students who tend to be more indirect in speech; therefore, there is likely to be unspoken conflicts and misunderstanding. Educators should therefore assume the role of communication managers so as to mitigate any potential conflicts that may arise in their pedagogical efforts. The point here is that during instruction, the focus should be on the content, not the means of its delivery.

One of the rather slippery areas of communication challenges in international education is that of differences in spelling. International students, especially those from emerging economies and where examinations are used for their selective function, are generally more particular about correct spelling. From personal experience, I had a significant problem with one of my first U.S. instructors who graded my work as poor because he thought that I had several spelling errors. On the other hand, I was surprised that the professor spelled poorly. In time, I came to realize that there are significant differences between U.S. and British spelling. The British teacher, Mary, in the research noted earlier, corroborates this point, on being asked a question regarding spelling differences and related issues she had noted in her U.S. teaching:

Researcher: "… How about when you have differences in spelling?"
    Mary: Oh, how do I do like colo[u]r? Yeah, I spell it my way. I spell h[a]emoglobin my way. And I say you don't get the [letter] "a" in it. I don't care how you spell it. Just spell it the same way every time, and I'd say I'm not changing because I've been doing this for too long, and they laugh about that. C-o-l-o-u-r [spelling it]; Colour is one. Humo[u]r.

Yeah, hemoglobin. Things like [o]estrogen…which doesn't have the 'o' in front of it. All sorts of things like that. But it's OK. I don't think it's a problem as long as they appreciate— you know; it's not a spelling mistake (Hutchison, 2005, p. 144).

Although the communication issues can be confounding if teachers and students are taken captive of them unaware, there are several solutions to them once they surface. For a start, internationally inclusive teaching calls for the recognition that there are regional and national differences in language and that when students are self-conscious about their language issues, be it accent, spelling, or otherwise, proficient instructors can find effective means to diffuse the issues. To some of the communication barriers raised in this section, internationally proficient instructors may consider using similar strategies such as those noted in the section captioned, *internationally sensitive andragogy or pedagogy*, to address any concerns. More notably, the lowering of affective filter can be a good start for students, so as to eliminate excessive concerns about self-presentation or shame. In fact, Mary noted that she was able to resolve her communication differences by using humor, self-deprecation, and consistency to manage the resulting issues. For example, she spelled her words consistently in British English, and in time, her students came to take her spelling for granted. On the other hand, she did not impose her spelling on others, provided her students followed the British or U.S. convention.

Orientation to the Social, Classroom, and Educational Cultures Found in the United States

Just as culturally responsive teacher education often involves clinical visits to culturally diverse schools so as to familiarize oneself with the issues, internationally inclusive teaching should involve some level of familiarity with several aspects of the U.S. education system. Programs that admit significant numbers of international students or that prepare international people as prospective teachers should consider equivalents of immersion into the U.S. education system early in their programs. The rationale for this is that such an exposure would help to contextualize the contents of the program. In considering the aspects such an orientation should involve, different types of orientations may be considered. They include systemic, philosophical, and pedagogical orientations. Besides, personal or group mentoring should be considered.

- *Systemic orientation*. Ideally, this would involve a visit to a local school in order to see how the school space is physically set up and spending a day with a teacher. In the least, it would involve watching a video of the same.
- *Philosophical orientation*. Students in the United States have the right to free education, paid for by the people, through local taxation. For this reason, U.S. students think of education as a right, not a privilege. This philosophical view of education is absent in many emerging economies, where education is a privilege,

not a right. Consequently, teachers wield significant power over their students, and the citizens view the teaching profession significantly more positively than in the United States. Immigrant students are often surprised at the disregard of the teaching profession and the treatment of teachers in the United States. Immigrant students need to understand the history and philosophy of education in the United States (even if briefly addressed) as a part of their cultural exposure. This would mitigate their later disappointments when they begin working as practicing teachers.

- *Pedagogical orientations*. This would involve watching how teaching is done in a variety of U.S. classroom settings. International, prospective teachers would benefit from watching U.S. teachers who are adept at using effective hands-on and cooperative teaching approaches because these are pedagogical approaches that are generally less familiar to immigrants.

Conclusion and Summary

In the context of a globalized world, education may be defined as the process whereby the peoples and cultures of the world interface in such a way as to create mutual understanding and progress. It is a job that largely falls on the shoulders of educational systems. Because different nations have different cultures, rules of etiquette, religions, philosophies, and worldviews, the very idea of globalization of education is challenging. However, the effects of the Internet as the primary globalized learning tool—coupled with human curiosity and the will to learn— has unleashed the powers of globalization, even in traditionalist countries that are ruled by dictators. Recent history, such as the Arab Spring of 2011, teaches us that even when world leaders oppose the compelling effects of globalization, their national boundaries are no longer impervious to sweeping ideologies, such as democratic and egalitarian thoughts. For this reason, much as political and institutional leaders may be forced to exhibit their modernity by paying mere lip service to the virtues of globalization but concurrently surreptitiously try to sabotage the local effects of globalization through inaction and passive resistance, the tangible outcomes of globalization are within our gates and are staring us in the eyes. Much in the same vein, teacher education cannot turn blind eyes to the effects of globalization.

In response to the now-natural and ever-progressing effects of globalization—a process that is largely driven by economics—education has become its captive, and must have an adequate response or become obsolete. We have arrived at a time when we need to heed our history, as humans: Since time immemorial, the migrations of humans across cultural barriers have elicited some forms of necessary cross-cultural accommodations, a form of cross-cultural education. As the world continues to shrink into a small community of learners, the onus rests on educators to unveil the processes by which cross-cultural education have taken place in the past—that is, across national, religious, cultural, philosophical, and other related

boundaries—refine them, and make them work well for education in an era of globalization. The ideas prescribed for internationally inclusive education is just a first step in this process.

Activity: Creating an Internationally Inclusive Lesson Plan: The Whys and Whats

The purpose of this activity is to help students to begin thinking about how the issues raised in this chapter can be translated into internationally inclusive lesson plan. One way to do this effectively is to think about how a conventional lesson may be changed into one that is internationally relevant and inclusive.

- *Step 1: In consideration of the contents of this chapter, select a lesson plan you have already created for a conventional lesson. Make sure that your lesson has your local and national standard objectives represented.*
- *Step 2: Highlight four issues you think are important for inclusion into the lesson so as to connect with international students.*
- *Step 3: Describe ways in which you would incorporate these ideas into the lesson under "Differentiated Action" in the lesson plan format table provided below.*
- *Step 4: Explain your rationale as to why your strategy for inclusion would make a difference under "Rationale" in the lesson plan format table.*

Your final product may be presented in a table form as follows:

Internationally Inclusive Lesson Plan Format

Grade			
Topic			
Rationale			
Focus questions			
Intended learning outcomes			
Standards			
Materials and equipment			
Classroom demographics	For example, 5 Asians, 4 Africans, 3 Australians, 5 Europeans, *besides* conventional U.S. students		
Activities	*Time*	*Differentiated actions*	*Rationale*
Bell ringer:	5 min		
Lesson element #1			
Lesson element #2, etc.			

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