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How the World Learns: Comparative Educational Systems

Course Guidebook

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Professor Wiseman's scholarship focuses on internationally comparative educational research using large-scale education data sets on math and science education, information and communication technology, teacher preparation, professional development and curricula, and school principals' instructional leadership activity. He is the author of many research-to-practice articles and books. Recent articles have appeared in *Compare: A Journal of Comparative and International Education*; *Prospects: Quarterly Review of Comparative Education*; *American Behavioral Scientist*; *Computers & Education*; and *Research in Comparative and International Education*. In addition, Professor Wiseman serves as the series editor for the International Perspectives on Education and Society volume series and as the chief editor of the *Annual Review of Comparative and International Education* volume. He also is the senior editor of the peer-reviewed journal *FIRE: Forum for International Research in Education*.

Professor Wiseman is active in service at the international, national, and university levels. He is a cochair of the Committee on International Accreditation for the Council for the Accreditation of Educator Preparation and has chaired both the Publications Committee and the Committee on the Advancement of the Field for the Comparative and International Education Society. In addition, he chairs or sits on many other decision-making committees related to international education and global experiences.

Professor Wiseman leads strategic planning workshops, informs educational policy development, provides evidence-based training programs, speaks internationally, and presents extensively in the areas of international testing, teacher preparation and professional development, strategic planning, system assessment and reform, education policy, change management, equitable educational access for girls and boys, institutional capacity building, school-to-work transition, and civic education. ■

Table of Contents

INTRODUCTION

LECTURE GUIDES

Table of Contents

Table of Contents

How the World Learns: Comparative Educational Systems

Scope:

This course begins with the most commonly asked question about education: How do we fix our schools? It will seem like an obvious question to ask (at first), but we then explore reasons why the question is important and why it is so difficult to answer. Some of the reasons include the fact that education is ubiquitous worldwide. Most people attend school at some point in their lives. As a result, everyone has an idea of how to make it better, and the logical place to start is to look at other educational systems that have done something well or better than our own. This course also addresses the importance and remarkable availability of internationally comparative educational news and data. Not only can we see what isn't working in our own systems, but we also have constant, on-demand access to information about schools in other countries through media and the Internet. To investigate some of this a bit further, this course introduces the most recognizable and widely used international educational data sources: PISA (Program for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study). Using this data, this course will address where the United States and other countries stand in comparison to each other and will return to highlight why the ubiquity of education and availability of data mean that the question about how to fix education will continue.

It is important to not only learn what works or doesn't work in other countries, but it is equally important to be self-aware. This course discusses what is unique about the American educational system by explaining the foundations of education in the United States. This involves some history of educational development in the United States, focusing on key thinkers and decision makers and their approach to education (e.g., Thomas Jefferson, Horace Mann, James Bryant Conant, etc.). The course clarifies the ideologies behind mass or universal education in the United States (democratic localism, citizenship development, equality, economic growth, and standardization of education) and highlights the key institutional components of education

in the United States, especially in comparison to the international model of mass education. Furthermore, the course analyzes why education in the United States fails to succeed whereas education in other countries has done so well.

This course addresses comparison factors while also discussing the importance of shared characteristics. To do this, the course emphasizes the importance of understanding ourselves as much as others and how important it is to develop an appreciation of one's own educational system from the inside as well as understand outsider points of view. The course discusses the prevailing case study approach to comparison ("butterfly collecting") but also addresses the fact that the details of education around the world are surprisingly familiar, given the diversity in culture, politics, and society that exists. This course specifically addresses each of these factors for comparison and provides examples of what each looks like in the United States, in target educational systems (Finland and Singapore), and in disadvantaged or extremely dissimilar systems (sub-Saharan Africa and conflict zones).

School and nonschool factors are systematically introduced and compared throughout the course as a framework for comparison. These factors also show how "school" looks worldwide and offer learners a more tangible framework upon which to start understanding their own educational system as well as conceptually, or less tangibly, synthesize what they do and don't know about education in other countries. School factors include students (background, cumulative learning, motivation, performance), teachers (background, preparation, activity, performance), curriculum (intended, implemented, received), and resources (funding systems, community support, school facilities, classroom resources, individual/family socioeconomic status).

This course also addresses what changes are really possible in education in different countries by analyzing the degree to which school and nonschool factors are responsible for the teaching and learning that goes on in classrooms. Some examples are Finland (equity policies), Saudi Arabia (girls' high performance/attainment), Singapore (teacher training and professionalization), and the United States (creativity/flexibility). In each case, the link between the educational practice/policy and the

social/community context is highlighted. In addition, the topic of how school factors in each country do or do not respond to nonschool factors related to the educational practice is addressed. In particular, the importance of nonschool factors such as race/ethnicity, socioeconomic status, and gender are highlighted. Extreme examples of how each benefits as well as disadvantages schools are discussed.

This course will drive learners to think critically about which countries and cultures are comparable and which are not. This course takes a different approach on the classic "apples and oranges" rationale to discuss what is and isn't a useful or appropriate comparison. The most popular type of comparison is the target comparison. These are usually more aspirational than realistic and focus on high-performing systems and growing economies. The more meaningful comparison, however, is one that begins with an internal comparison. Evidence shows that the countries with the "best" educational systems also have the least amount of variation between their highest and lowest achievers, whereas the "worst" educational systems typically have the most variation among their best and worst schools, teachers, and students. This course also analyzes peer systems for comparison by highlighting what is shared and what is comparable between countries on most continents. Finally, the course shifts to factor-driven comparisons. This is close to a "what works" approach, but the course discusses what is desirable about global educational systems for the United States and what is not. ■

The Global Challenge to Educate

Lecture 1

In order to examine how the world learns, we must first understand how cultural customs and practices outside the classroom influence what goes on inside. The central thesis of this course is that the key to learning from international comparisons is to understand which school and nonschool factors align to achieve success in any particular context. Knowing how the world learns is a stepping-stone to understanding how students acquire skills and knowledge, teachers teach, and education systems function in the best (and worst) ways. This insight will help parents, educators, and policymakers make the best decisions and implement superior education in each unique context and classroom in the United States—and around the world.

Cognitive Domains and Bloom's Taxonomy

- Research suggests that benchmarking one national education system against another is not necessarily a remedy—or even a very useful analytical tool. Identifying what works in one place, and implementing it in another, has not been a successful approach.

- Instead, experience and evidence clearly demonstrate that systems focused on internal comparisons across content and cognitive domains are the most effective at achieving solutions. Cognitive domains—or cognition—generally refer to the mental processes of acquiring knowledge and understanding through thought, experience, and the senses.

- Content is what we learn—such as math, science, history, literacy. Cognitive domains, on the other hand, refer to how we think when we are learning.

- The most celebrated study of cognitive domains is known as Bloom's taxonomy. Bloom's taxonomy is named for the 20th-century American educator and psychologist Benjamin Bloom, who

published a framework for categorizing education goals known as the *Taxonomy of Educational Objectives*.

- Bloom's taxonomy is a way of understanding different levels of thinking, starting with plain "knowledge," at the most basic level, and moving up to the most complex levels of "synthesis" and "evaluation."

Japanese and American Classrooms

- Consider this example of the interaction of school and nonschool factors. The Japanese classroom is arranged to value teams and group consensus about actions, knowledge, and social interaction. Even junior high school classrooms in Japan are organized this way: Students stay in their classrooms while teachers move from class to class.

- In this system, the class is valued as a unit. And within the classroom, the students are divided into smaller groups—with desks arranged to emphasize subdivisions into smaller teams.

- Among inferential conclusions, we can identify the following benefits: The social organization and cultural expectations of young Japanese students are being reinforced by both school and nonschool factors to act—and react—in highly scripted ways. For example, learning is supported by the fixed-classroom structure—no roaming the halls—so that distractions and interference with learning are minimized.

- But there is a possible downside as well. The downside is that unscripted learning—or situations where knowledge and skills needs to be applied—may be less accessible by Japanese than by American students, who learn a different set of norms through more individualized classroom instruction.

- Here is the beginning of our understanding that the key to learning from international comparisons is to understand which school and nonschool factors align to achieve success in any particular context.

Focus on Significant Factors

- There are a number of reasons for taking this course. Some students may be interested in knowing how the rest of the world reads, learns, interacts, and forms its own culture. Others may want to know how the world learns because they want to remedy something—for example, to "fix our failing education system."

- We all know that there are no simple solutions, or easy fixes, to complicated issues. And, quite frankly, there are many more fundamental and productive questions about why we learn, and how we teach, that we should be asking—rather than simply to determine what's wrong with our schools.

- In this course, we will learn that some factors that influence education are more significant than others. And if we really want to understand not just how the world learns, but what that means for the improvement of education in our own communities and countries, then we're going to have to learn which factors matter the most—and focus on them.

Context Is Key

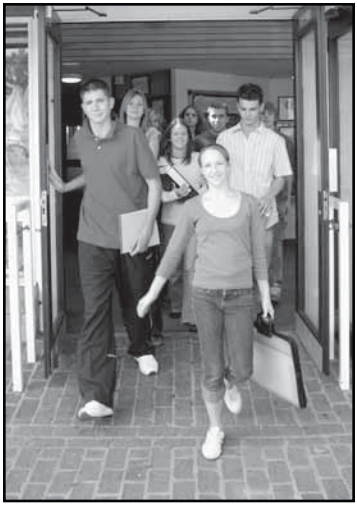
- According to the central thesis of this course, a significant factor in comparing education systems is that context is key.

- Context is the environment in which education takes place, and there are two kinds of context that we will address: school and nonschool.

- Context is multilayered, both inside and outside of schools. Inside schools, there are students, teachers, classrooms, departments, administration, central administration, and on and on through the organizational hierarchy.

- Outside the schools, the context gets much larger, and quickly. The first level is the school itself, and the social, political, and economic norms that are unique to that school. The next level of context is the local community. In the United States, this includes the school

district, which means that the school's norms are nested within the community's norms.



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A significant factor in comparing education systems is that context, both inside and outside of schools, is key.

School and Nonschool Factors

- Given a specific combination of school and nonschool factors or contexts, there is no formula (yet) that works for "fixing" education. But we do know that it is much easier to change or manipulate school factors than it is to change or manipulate nonschool factors and context. For example, school factors that we can influence include the following:
  - Curriculum (official and implemented)
  - School resources (funding, textbooks, facilities)
  - Teachers (preparation/education, experience, professional development, pedagogy)
  - Policy (requirements for teaching/learning, discipline policies, resource policies, decision-making processes)
- Nonschool factors typically reside in the environment or context outside the school or education as an institution. They cannot be changed by education policy or legislated by administrators or policymakers. Nonschool factors include the following:
  - Culture of community
  - Socioeconomic status of families/students
  - Religion of students/families

- Inequality of wealth or status
- Family relationships
- Individual characteristics (such as whether a student gets enough sleep at night)

Socioeconomic Status

- Research shows that socioeconomic status is the single most significant factor when it comes to predicting student learning and performance outcomes. Students from wealthy families and communities consistently outperform students from poor families and communities.

- The reason is that well-to-do families are also more aligned with school expectations and content. Those who do well in life tend to either mimic, or reproduce, the culture of schooling that persists in national education systems worldwide. They also tend to understand the importance of education, and manage their children's education throughout their school years.

- An important question is how to account for the interaction effects of school and nonschool factors, such as socioeconomic status. Research shows that teacher education and experience can have a significant impact on student learning and performance outcomes. But we also know that the effect of school factors—such as teacher quality—is less about how well teachers know a subject area, and more about how they manage the interaction of a student's socioeconomic status with the school and classroom environment.

Teachers Manage in Context

- At any given moment, teachers have to finesse instruction and learning on behalf of their students in order to accommodate the different combinations of school and nonschool factors at work.

- This means that in communities and schools with low socioeconomic status, teachers have to do much more to deliver a positive impact on their students than do teachers in high-status schools and communities.

- At the high-status school, the teacher will have high-performing students, and will most likely receive support from parents, school principals, and peers. At the low-status school, the teacher is likely to have academically struggling and low-performing students, and is going to be questioned and monitored to find out why she or he is struggling with teaching students to perform at minimum competency levels.

- The major difference between the two communities, of both high and low socioeconomic status, is not that there is a difference in the "school" factor—that is, teacher quality. In fact, the difference is that teacher quality aligns differently with the "nonschool" factor—that is, the community's social and economic status. In other words, the difference is context.

Context Changes in Every Country and Culture

- In most countries, an understanding of socioeconomic status—and the implications of socioeconomic status for learning—are not part of the public discourse about education. It is much more common to encounter policymakers who push for across-the-board teacher reform or for implementing 10-step policy prescriptions that address only school factors—without any acknowledgement that nonschool factors are at least as important in the equation.

- For example, Andreas Schleicher, a spokesman for the Organisation for Economic Co-operation and Development (OECD), argues that high-performing education systems have implemented particular policies and education reforms that low-performing education systems have not.

- The mission of the OECD is to promote policies to improve the economic and social well-being of people around the world, by working with member governments to foster economic growth and financial stability. To this end, the OECD collects and analyzes data that has perceived economic relevance (such as education data). Then, OECD committees discuss policy and make recommendations to member countries.

- Using this process, the OECD has produced a report and video series called "Strong Performers and Successful Reformers in Education." It examines systems in Belgium, Brazil, Canada, China, Finland, Germany, Japan, Korea, Netherlands, Poland, Portugal, Singapore, and others, and concludes that some improvements in student learning and performance can be made without any added expense or budget increase.

- The OECD analysis includes benchmarking performance, increasing teacher quality, emphasizing performance accountability, and implementing policies that promote equity in access to education and opportunities to learn while in school. The OECD's comparison formula, however, has a fatal flaw—that is, context changes in every country and culture.

Suggested Reading

de Marrais and LeCompte, *The Way Schools Work*.

Heubert and Hauser, eds., *High Stakes*.

Suskind, *A Hope in the Unseen*.

Wiseman, *Principals under Pressure*.

Wiseman and Alromi, "The Intersection of Traditional and Modern Institutions in Gulf States."

Questions to Consider

1. What are school factors? What are nonschool factors? What is the difference, and why is each important to understanding how the world learns?

2. Why do we want to know how the world learns?

3. How can we fix our failing educational system?

4. What are common reasons for wanting to “fix” education?

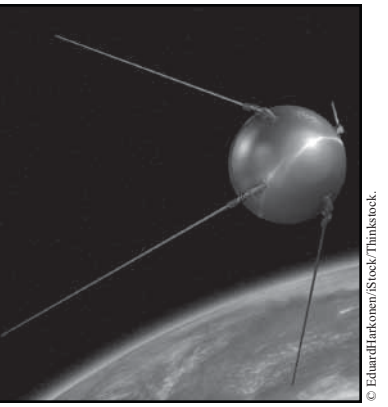
Sputnik Launches the Science-Math Race

Lecture 2

On October 4, 1957, the Soviet Union launched *Sputnik I*, the first artificial satellite to orbit the earth. The successful launch came as a shock to Americans. The fact that the Soviets were beating us in the space race was enough to push national attention, and funding, toward education. Money was targeted to improving science and mathematics education, building foreign language competency, and employing education as a tool for international competition. This was a defining moment in the Cold War between the United States and the Soviet Union—and a pivotal point for education as a national agenda item.

Education as a National Agenda

- Ever since the Sputnik crisis, education has been identified as a national priority. But the rhetoric of the education crisis really took hold in our national conversation during the early 1980s, with the publication by President Ronald Reagan's administration of the special report titled *A Nation at Risk*.



The launch of *Sputnik I* was a pivotal point for education as a national agenda item.

- *A Nation at Risk* emphasized that lackluster education would not only jeopardize the United States' economic advantages, but would also make the country more vulnerable to foreign attack. The language of crisis in *A Nation at Risk* is not subtle. It states, "If an unfriendly foreign power had attempted to impose on America the mediocre

educational performance that exists today, we might well have viewed it as an act of war." The report then builds on this Cold War language, stating, "We have in effect been committing an act of unthinking, unilateral educational disarmament."

- The United States has enjoyed some successes in education reforms in the years since *A Nation at Risk* was published. For example, during the late 1990s, President Bill Clinton's administration made hundreds of millions of dollars in Title I funds available to schools in impoverished communities—and $1.2 billion more available to repair crumbling classrooms.

- To address a continuing perception that education is in search of a fix, the country adopted President George W. Bush's policy called No Child Left Behind. His successor, President Barack Obama, brought the Sputnik crisis full circle, saying in 2011, "This is our generation's Sputnik moment …. We need to out-innovate, out-educate, and out-build the rest of the world."

- It is worth noting that the continuing emphasis on education improvement through the decades is not concentrated on the arts or humanities. It is squarely placed on the shoulders of STEM (science, technology, engineering, and mathematics) education.

A Decentralized Government

- We do need an exceptional education system in the United States. However, we face a considerable barrier.

- The United States is among the most decentralized nations in the world. Unlike the founding documents of many other countries, the U.S. Constitution provides no mandate for education provision or opportunity. In America, the responsibility for education is left almost entirely up to the individual states, whose own state constitutions establish many of the basic rights and responsibilities of public education in the United States.

- While decentralized authority is highly beneficial in terms of democratic practice and even economic innovation, it also means that decision making about large-scale institutions—like education—has gradually become centered around competition and crisis.

Japan and Germany

- By comparison, the silence of the U.S. Constitution on education is in stark contrast even to the constitutions of some countries that U.S. representatives helped draft.

- For example, Article 26 of the Japanese constitution states: "All people shall have the right to receive an equal education correspondent to their ability, as provided for by law. All people shall be obligated to have all boys and girls under their protection receive ordinary education as provided for by law. Such compulsory education shall be free."

- Article 7 of the German constitution states: "The entire education system is under the supervision of the state. This means that while each individual state in Germany has responsibility for education, there is also a national statement of supervisory authority." Germany also takes an action that is unique: Its constitution injects a right to religious instruction directly into its statements on education. Further, the right to establish private schools is guaranteed.

- Both Japan's and Germany's constitutions recognize that school and nonschool factors are at work in the education system.

PISA and TIMSS

- When we consider the quality and provision of education in the United States, we often ignore variations among individual states, and concentrate instead on national averages in student performance. On a grander scale, we compare U.S. student achievement to that of other countries.

- In many cases, the comparisons do not acknowledge the significant role that nonschool factors play in education. Following is an analysis of some ways we compare the American education system with schools and students in other countries.

- The best known—and most referenced—international assessments of education worldwide are known as PISA (Program for International Student Assessment) and TIMSS (Trends in International Mathematics and Science Study). For this lecture, we will focus on TIMSS, which tracks the academic achievements in mathematics and science of students in about 70 countries around the world.

Model Systems: Singapore, South Korea, Finland

- Evidence from TIMSS suggests that American students consistently score above the mean in biology—and improved during the 2000s to score above the average in earth science. However, U.S. performance in chemistry and physics consistently lags behind the overall average (while steadily improving over time).

- Countries that appear at the top of the rankings—the so-called model systems—generally get the most attention from policymakers, media, and others. For example, at the top of the TIMSS science achievement rankings are Singapore, South Korea, and Finland. Researchers examine the teacher preparation, curricula, and classroom teaching methods in these countries in great detail, in the hope that their findings will influence and improve education policy and practice.

- Teachers in Singapore and Finland have gotten a lot of attention because of the rigorous and standards-driven process by which they are trained and certified; the emphasis is on expert content area and pedagogy. Finnish reforms have been shown to promote equitable education access and opportunity.

- In Singapore and Korea, by comparison, education and teachers are highlighted for the culture of respect that they command. The status of teachers is relatively higher in Singapore and Korea than it is in most other countries.

Examine What We Learn in the Context of How We Learn

- Each of these model systems—in Finland, Singapore, and Korea—have had their curricula scrutinized, and it has been demonstrated that their classrooms are subject to more focus and less repetition than classrooms in other countries.

- Based on these findings, we would be tempted to provide a quick fix to U.S. education by adopting some of the methods and education policies of Singapore, Korea, and Finland. While their approaches have demonstrated evidence of success, however, they are not necessarily a good fit for education in other countries and community contexts. The reason is that the key to learning from international comparisons is to understand which school and nonschool factors align to create success in a particular context.

- The real question is whether the contexts in Singapore, Korea, and Finland—and the assumed connections between school and nonschool factors—are transferable to other countries.

- Research suggests that taking policies and programs from other high-performing countries is not a remedy for education. Instead, those education systems that focus on internal comparisons across content and cognitive domains are the most effective reformers.

- In other words, it is critical to examine what we learn in the context of how we learn.

Balance Content and Cognitive Domains

- Balance across content and cognitive domains is key. National education systems where there is the least variation across content and cognitive domains tend to have the highest-performing or most rapidly gaining systems.

- Consider the example of eighth-grade science cognitive domain scale scores from TIMSS 2011. If we compare the overall scores in science, we can see how national average student performance in each of the cognitive domains compares to the country's own average overall score. Focusing on strengths and weaknesses can be more targeted this way.

- For example, in the United States, evidence shows that students perform at relatively consistent levels in science. American students tend to be stronger in "knowing," relatively stable in "reasoning," but slightly weaker in "applying" science. In the United States, there seems to be strength in biology and earth science, and weaker teaching and learning in chemistry and especially physics.

- Making policy recommendations from the data, we could reasonably suggest the following for the United States:
    - Improved teacher preparation and expertise in chemistry and physics could improve student learning and performance in these areas.

    - More focused curricula in chemistry and physics lessons could improve student learning and performance.

    - Equalizing opportunities for advanced chemistry and physics learning would improve demonstrated student performance.

- In other words, we can consider evidence about what the highest-performing education systems do; match it to specific information about the needs, context, and characteristics of education in a country or national education system; and then make useful policy and practice recommendations that align school and nonschool factors within each unique country context.

Avoid the Culture of Crisis

- Raising standards and expanding the curriculum are typical crisis responses, but a culture of crisis puts us at a disadvantage when it comes to using international comparisons in education.

- The reason is that crisis creates panic, and panic leads to reform and change for the sake of reform and change—not targeted and real reform that is aimed at improvement.

- Then, we spend a lot of time trying to manipulate school factors—those influences that have to do with curriculum, resources, teachers, and teaching methods. But we spend far less time thinking about how the nonschool factors that contextualize education within our own system and in comparison countries work to influence teaching and learning.

- In most countries—not just our own—the education culture is driven by crisis. But our responses don't have to be.

Suggested Reading

Bracey, "The Sputnik Effect."

Powell, "How Sputnik Changed U.S. Education."

Smith and Baker, "Worldwide Growth and Institutionalization of Statistical Indicators for Education Policy-Making."

Sund, "U.S. Declining Global Rankings in Math and Science and the Impact on our National Security."

Questions to Consider

1. Why does educational reform often emphasize science and math over other subjects?

2. What is the difference between internal and external educational comparisons? When is it appropriate to use each or both?

Education Is Life

Lecture 3

American education does not usually fare well in international comparisons. For example, on the two most frequently cited international tests of student achievement, the United States ranks near the middle in reading, mathematics, and science. Even more worrying is that we score below countries that are our economic and political competitors—such as China. What's more, the United States does not seem to be able to break into the top-achieving group, in spite of decades of education reforms. In this lecture, we will examine how Americans think about education. Once we understand that, we can begin to use the data from international test scores and other sources to improve education.

John Dewey

- John Dewey, a celebrated American philosopher and educator, noted, "Education is not a preparation for life; education is life itself." Dewey was one of the earliest comparatists of education in the United States. His comparative view and philosophy of education have shaped our own education system and our perspectives on education worldwide.

- Dewey, who lived from 1859 to 1952, was most noted as the leader of the progressive movement in education that came of age in the early 20th century. He was also a founder of the influential school of philosophy known as pragmatism, along with Charles Peirce and William James.

- Throughout his life, Dewey emphasized ways in which human intelligence and real-world experiences could be applied through what he called a "child-centered curriculum" to solve real problems and understand lived experiences—rather than simply to memorize facts and learn abstract concepts.

- Dewey's education ideas centered on the theoretical gap between child-centered curricula and subject-centered curricula. According to Dewey, this gap arose from education's failure to recognize the natural (and essential) interaction between each child and the curriculum being taught in schools. In other words, Dewey did not see any reason to separate education from lived experience; and he argued that when education and life were separated, education lost its purpose and effectiveness.

- In the place of the traditional curriculum, Dewey envisioned new possibilities for education as seeding a child's human potential for development—based on his or her personal experiences. To put a finer point on this, Dewey felt that students must experience in order to learn. In his view, it was an educator's job to select the appropriate stimuli, and appropriate experiences, to bring out young students' interests and impulses.

A Dominant Life Experience

- For most of us, Dewey's point that "Education is not a preparation for life; education is life itself" is completely accurate. Education is life—but in a way that Dewey did not expect.

- Instead of education mimicking real-world situations that happen outside of school, school itself has become the dominant life experience for most people from the age of five or six until they graduate from high school around the age of 18 and enter adulthood. And for many of us, the experience lasts even longer.

- Therefore, the relevance and significance of today's education—especially formal education—cannot be overestimated. This might explain why education is the focus of so much public debate and discussion in the United States and around the world.

The American Philosophy of Education

- Let's consider a number of key questions that will help us think about what we know, and believe, about education.

- Which is more important—gaining knowledge or learning new skills? Knowledge is generally defined as what you know; but it is not the action or use of knowledge itself. Skills are what you do, and they may require knowledge or they may be rote procedures. Skills can usually be trained, but knowledge is something that is learned.

- What are the best teaching methods? Some people think that individual learning is the most effective method, and this is what happens in most schools around the world. Other people are more interested in interactive, or shared, learning experiences.

- What are the best learning-assessment procedures—standardized testing or seeing how students apply their knowledge and skills to solve practical problems or perform specific tasks?

- What is the purpose of school? Possible answers to this question are to prepare us for college and university, prepare us for jobs and a career, or to make us better human beings.

- Most education "success" is measured in terms of student-achievement scores on standardized tests. Does this translate to success in life, or just success in school?

- What are the rights and responsibilities of students in schools? We should ask ourselves if students have a right to learn, or whether it is a privilege; if students should be able to decide what, when, or how they learn; and what is the best way for students to interact with each other or with teachers.

- What is the responsibility of teachers—as providers of academic content, caregivers, or counselors (or all three)?

- What do you think is the minimum information that someone should know after finishing primary school? After graduating

from high school? Asking what people should know at the most basic levels entails questions that Dewey would ask as well, because they help us think about what kind of society we want.

- U.S. college and university students who are training to become teachers are usually asked to articulate a "philosophy of education" that addresses the key questions above—so that future teachers and administrators will have a vision that guides their career decisions, behaviors, and activities.

Blame-and-Shame Tactics

- For more than a century, Americans have been publicly reiterating the failures of our education institutions. These failures have been reported in numerous articles and books, one of the most accessible of which is *The Way We Were? The Myths and Realities of America's Student Achievement*. The book's author is Richard Rothstein, an education expert who has taught at Columbia University and Harvard, and is associated with the Economic Policy Institute in Washington.

- In his book, Rothstein looks back—decade by decade for 100 years—to see just what the popular and public discourse about education in America was at the time. He finds that there has never been a "honeymoon" period with American education. As Rothstein's examples demonstrate, blaming schools for the failures of youth, society, and the economy has always been in vogue in the United States (and around the world).

- For example, in 1902, editors at the *New York Sun* wrote that when they attended school, children "had to learn." In 1909, Ellwood P. Cubberly, the dean of Stanford's School of Education, wrote that "whether we like it or not, we are beginning to see that we are pitted against the world in a gigantic battle of brains and skill."

- In 1913, President Woodrow Wilson appointed a presidential commission to study vocational education and international competitiveness. In 1958, *Life* magazine reported that "students in

American cities terrorize teachers … [and] it often takes physical courage to teach." And in 1961, a report by the Council for Basic Education said that one-third of ninth-graders couldn't read above a second- or third-grade level, causing problems for businesses and the economy—not to mention shame in comparing U.S. education to schooling in other countries.

- This blame-and-shame tactic is still used today. Experts continue to link problems in U.S. society and the economy to the supposedly low-quality education that children receive. Adding fuel to the fire, we have international comparisons telling us that American education is sinking; that American students score lower than their economic and political competitors worldwide; and that nothing is improving, even though vast amounts of time and money are spent on "fixing" education in America.

Blaming schools for the failures of youth, society, and the economy has always been in vogue in the United States.

What the Polls Show

- The policymakers paint a bleak picture. However, in order to find out what is really happening in education—and what Americans really believe—researchers asked them.

- Every year, research experts at Gallup team up with the education honor society Phi Delta Kappa to poll a representative sample of Americans. One objective of this poll is to find out what the American education experience is, based on public perceptions about the condition of education in the United States.

- Participants are asked many different questions about education, but one set of questions in particular is asked year after year. People are asked to give a grade to education in the United States, ranging from A for excellent to F for failing. Here's what the poll results tell us year after year:
    - When asked to grade the nation's schools, people give largely Cs, Ds, and Fs. In other words, the public perception is that education in the United States as a whole is below average, or failing.

    - When asked to grade the schools in their own school district, people give largely Bs and Cs. In other words, the public's perception tends to be that the schools in their own area are average, or slightly above.

    - When asked to grade the schools that their own children attend, people give largely As and Bs.

- What these contradictory numbers demonstrate is that there is misinformation—or misperceptions—about national education in the United States. While not everything about American education is working, the idea that we can just "fix" education, like we'd fix a flat tire on a car, isn't the answer either. What's more, misinformed international comparisons of American education do not help us understand what works, or doesn't, in our schools.

Suggested Reading

Baker, *The Schooled Society*.

Dworkin, *Dewey on Education*.

Goodlad, *A Place Called School*.

Rothstein, *The Way We Were?*

United Nations, *The Universal Declaration of Human Rights*.

Questions to Consider

1. What does an ideal educational system look like? How can we decide?

2. Is it more important to gain knowledge or learn new skills?

3. Is standardized testing the best way to evaluate educational quality?

4. Why do we believe that school is the best place to learn?

5. Should school prepare youth for university or career? Is the goal to make youth better people or socialize us to our environments?

6. Is education a human right?

7. What is the responsibility of teachers? Are they responsible for more than academic learning, such as the social and emotional well-being of their students or the safety of their students?

8. What makes a quality teacher?

9. What should someone know after finishing elementary school? Secondary school?

10. Which values and ideas about education are unique to your community and culture?

Evidence-Based Policy Making in Education

Lecture 4

Two of the highest-scoring countries on international tests of educational achievement are Finland and South Korea, yet they have two very different approaches to education: a low-stakes system versus a high-stakes one. The fact that students in these two countries do well on standardized tests tells us that—despite extremes in any one country's approach to education—there is no universal formula that will guarantee reliable outcomes in the campaign to produce high achievement. Instead, student learning and performance seem to be highly dependent on the culture and context of each country's education system. As we'll see in this lecture, it's necessary to consider both school and nonschool factors to make informed decisions about education policy and practice.

Issues with Evidence

- The rise in the use of scientific evidence for educational policy making rests on two common beliefs: that school knowledge is abstract and universal and that empirical evidence is an efficient indicator of knowledge and learning. As a result, "evidence" presents serious educational policy-making consequences for individuals and schools alike.

- However, as we all know, data can be misleading, particularly if we ask the wrong questions or misinterpret the evidence. Data is a significant concern in the world of education because in addition to policy frameworks, a great deal of school funding depends on it.

- Beyond the policy and funding framework, there is also the issue of data being used to validate or "legitimize" people, policies, and even entire nations in the global education debate. Sometimes, this legitimacy is deserved, and sometimes it isn't.

- Further, there is a closely related problem that usually is not even acknowledged—much less addressed—in the education space: We now produce so much data—usually in the form of quantitative information—that no one has the ability to sift through it all.

A Global Phenomenon

- After World War II, the education of children became a broadly shared objective in nations around the world. This led to an unprecedented emphasis—by parents and policymakers—on ensuring primary and secondary education for all school-age children, an objective that was formerly limited to developed nations.

- National governments, education policymakers—and, in particular, development organizations—became more determined to deliver meaningful primary and secondary education. And in the decades that followed, policymakers became particularly focused on quantitative standards.

- In fact, evidence-based education policy making has become a global phenomenon. Published reports of education performance comparing nations, based on average student-achievement scores on standardized tests, have become increasingly relevant to education decision making and policy making, especially as international competition in science and technology increases.

President Johnson's Great Society

- The drive to quantify evidentiary indicators in education began in earnest during the New Deal of President Franklin D. Roosevelt and then grew dramatically in scope two decades later, during the Great Society campaign of President Lyndon B. Johnson.

- The most significant contribution President Johnson made to evidence-based decision making in education was this: With little fanfare, his administration released a two-volume report on July 2, 1966. Titled "Equality of Educational Opportunity," and popularly known as the "Coleman Report," it was the first large-scale evidence-based investigation of education in the 20th century.

- The Coleman Report was named for the American sociologist James S. Coleman, who led the study. The Coleman Report suggested that family and peer influences—rather than school resources—are what really determine student performance. This evidence changed the course of education policy making in the United States and abroad.

"Equality of Educational Opportunity"

- President Johnson commissioned "Equality of Educational Opportunity" as part of his strategy to address civil rights in the United States. But first, he had to identify evidence of inequality in schooling. In particular, Johnson wanted to know which inequalities most affected achievement.

- So, in 1964, during the height of the civil rights era, Congress asked the U.S. Commissioner of Education to examine "the lack of availability of equal education opportunities for individuals by reason of race, color, religion, or national origin."

- Johnson and his administration believed that fixing school inequality would be relatively straightforward, because the government could just pour more money into schools of lower socioeconomic status or poorer-performing schools. This prediction did not develop as originally thought.

- James Coleman, a professor of sociology at Johns Hopkins University, undertook an unprecedented nationwide survey of education in the United States, and collected national data on approximately 600,000 students, 60,000 teachers, and 4,000 public schools. This undertaking took place before the era of frequent and centrally coordinated data collection. At that time, each state, district, and school had its own methods for record keeping, which varied in terms of quality, scope, and type of data.

- Coleman's team used this first-of-its-kind data set to relate family background characteristics (such as race and socioeconomic status) and school equity variables (such as whether a school was racially

integrated) to student outcomes (such as test scores and attitudes about higher education).

School and Nonschool Factors

- Perhaps not surprisingly, Coleman found that U.S. schools were deeply segregated, and that inequalities existed within schools, as well as between them. What was a surprise, however, was that Coleman determined that student test outcomes were unrelated to the usual school factors (such as the quality of school facilities, programs, and teachers).

- Instead, improvements in academic results among minority children were significantly linked to the composition of the student body—as measured by the proportion of students with encyclopedias in their home and the proportion with high aspirations.

- In other words, Coleman found that nonschool factors were as good, or better, than school factors at predicting student success among disadvantaged and minority children.

Coleman Report Findings

- The Coleman Report was the first survey to bring large-scale data to bear on education policy. But using this large-scale data for making education decisions is not simple; in fact, it is quite complex.

- For example, Coleman's team failed to find some evidence that their study was designed to produce. Instead of providing evidence that the quality of schools was the most significant factor for a student's academic success—as its sponsors expected—the report showed that a child's family background, and a school community's socioeconomic makeup, were the best predictors of student achievement. In other words, the evidence was messy; resources alone were not the problem with education inequality.

- Despite its record of mixed success, however, the report's remarkable accomplishment at introducing data into the education debate in the

United States was a principal reason that education policy today is heavily dependent on evidence-based decision making.

- The Coleman Report taught us the following:
  - First, there is a complex blend of agenda and evidence that goes into most education decision making.
  - Second, there is value in the systematic collection and coordinated analysis of education data for making decisions about education policy and practice.
  - Third, a consideration of school and nonschool factors is necessary to make informed decisions about education policy and practice.

Best Practices

- Evidence-based education decision making and policy implementation often depend on an assessment of "what works." "What works"—better known as "best practices"—is a policy-making rationale that combines individualized and agenda-driven education policy decisions and reforms. Best practices are frequently based on exceptional cases that represent what some believe success looks like in education.

- Best-practices evidence is often quantitative because of its reliance on student-achievement scores to document success. There are a few significant problems with best-practices evidence, however.

- One problem is that policy making resulting from best-practices evidence often focuses only on what works in specific situations, or with unique communities. Sometimes this approach does not address the intervening variables that might prevent what works in one context from having the same positive effect in other contexts.

- The best-practices approach in education policy making is far from the original evidence-based research tradition that began in the field of medical research. The reason why is that education is a social phenomenon; the factors or variables affecting education are the result of a complex combination of school and nonschool factors.

Legitimacy Seeking and Funding

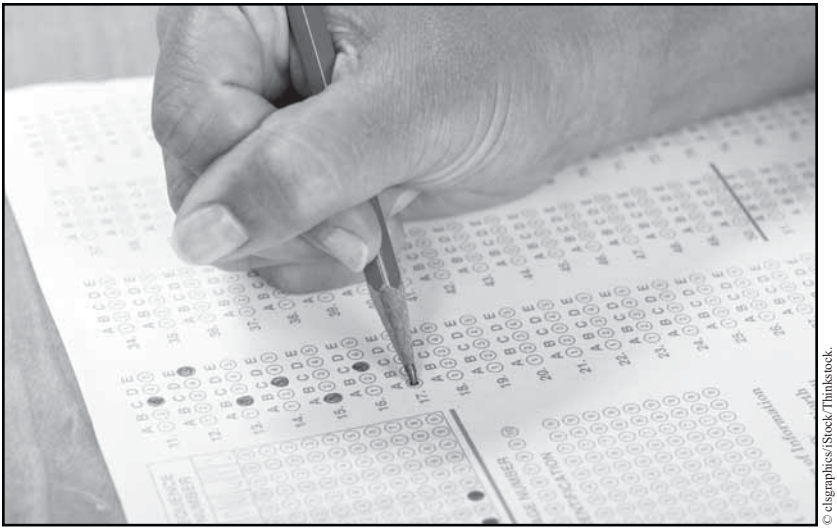
- Evidence-based education policy making is the most frequently reported method used by politicians and policymakers (that is, those who have education policy decision-making authority). The reasons often have as much to do with legitimacy seeking as with the actual evidence.

- "Legitimacy seeking" means that policymakers seek approval for what they are doing from their individual and institutional peers, often justified by "evidence." As a result, decision-making methods that garner legitimacy for the individual policymaker and the education system represented are commonly introduced by policymakers and implemented in schools.

- At the state and national levels, test results are increasingly tied to funding. Although only a small percentage of school budgets in the United States actually come from the federal government, compared to what comes from state and local taxes, this small percentage is still a large and highly significant amount of money. Without it, most schools would be unable to operate because they would fall short of their budgetary requirements.

No Child Left Behind

- Funding issues have become even more crucial during the era of No Child Left Behind because of an accountability standard called adequate yearly progress (AYP). AYP is required by Congress's No Child Left Behind Act of 2001, and describes the amount of yearly improvement that each school and district is expected to make.



At the state and national levels, test results are increasingly tied to funding.

- Although states can decide how AYP will be measured, whatever measure they decide on is reported to the U.S. Department of Education. Usually, it is measured as progress or improvement in student achievement on a state-administered standardized test. As a result, AYP is tied to federal funding and state and school reputations. Since AYP is tied to federal funding, it has become vital policy-making evidence for school systems in every state.

- Furthermore, because the U.S. Department of Education has the responsibility for evaluating the education performance of schools and states, the department can and does use test performance as a means to control the curriculum schools adopt, the content teachers teach, and other components of schooling.

- While the No Child Left Behind law is simply the current version of legislation originally adopted in 1965—as the Elementary and Secondary Education Act—the point of the current version is to ensure that the students in all schools and districts (including low-achieving children) meet high-performance goals.

- Few educators and parents would disagree with this objective, but standardized tests were assumed to be the only way to measure student performance. Many states have begun to adjust their testing programs so that they could show AYP every year. This manipulation of the evidence for education policy making was unfortunately not the solution that most reformers who backed No Child Left Behind had desired, and it undermined the control of national-level education policymakers.

Suggested Reading

Collins and Wiseman, eds., *Education Strategy in the Developing World*.

Wiseman, ed., *The Impact of International Achievement Studies on National Education Policy*.

Wiseman, "The Uses of Evidence for Educational Policy Making."

Questions to Consider

1. Why use evidence to make decisions about education?

2. Why is evidence-based educational policy making a global phenomenon?

3. How can comparative and international education evidence be used to make educational decisions?

What Should We Compare about Education?

Lecture 5

In a recent global survey of math and science skills, the highest-scoring mathematics students were from Taiwan, followed closely by South Korea and Singapore. In science, the highest-scoring students were from Singapore, followed by Taiwan, Japan, and South Korea. American students typically did not fare as well as the top performers worldwide. Among the lowest-scoring countries were Qatar and Ghana. In this lecture, we'll address those aspects of education that deserve comparison in international assessments of education excellence—and attempt to tell the real story about education that achievement tests may not reveal.

Knowledge as an Exchange Commodity

- Instead of using internationally comparative education data to highlight the shortcomings of education in just one country—in the United States, for example—it might be more helpful to use that information to understand how knowledge is becoming an exchange commodity, and then identify the strengths and weaknesses in education in specific systems, in order to make improvements.

- This would also be a more strategic approach to reforming education systems than simply using the data to accuse national education systems of failing—without offering alternatives. Criticism of national education systems arise through three main phenomena: achievement envy, accountability expectation, and access entitlement.

- "Achievement envy" refers to the envy that knowledge consumers and others tend to have for achievements that they perceive to be beyond their own. It is an attitude that permeates most institutions and organizations, including formal education systems and schools.

In the context of education systems, the primary indicator of successful performance tends to be average student-achievement scores on standardized tests.

- "Accountability expectation" suggests that schools and, in particular, school principals and classroom teachers, should be responsible for student achievement—often more so than even the students themselves.

- "Access entitlement" is based on the expectation that everyone of school age will enroll in, and attend, school for most of the most formative years of their lives. This, in turn, means that literally everyone is a stakeholder in the schools, and has access to the knowledge they disseminate, exchange, and create.

Finland

- Part of the reason why American students perform, on average, lower than students in many other countries is that there is so much variability in the U.S. education system, and in American society.

- Finland is a model for international comparison in education. In a recent international assessment called Program for International Student Assessment (PISA), Finnish students scored, on average, higher than students in every other nation participating. PISA is one of the most highly recognizable studies used to compare education systems worldwide.

- To understand the education success of Finland, its education system must first be contextualized. Since Finland's rise as one of the most scrutinized education systems in the world, Finnish educators have repeatedly said that two of the keys to their success are education equity and expertise. "Equity" means that everyone is provided an equal chance to learn, in a community that values their ideas and abilities. "Expertise" means that educators in Finland are considered to be highly professionalized and selectively trained.

- Finland is unique, in many respects. For example, it has a small and culturally distinct population, and it possesses a teacher-training system that is much more centralized and rigorous than that of any other country.

- While U.S. policymakers and educators can use Finland's policies and systems as models and templates for reform, this will not necessarily change anything in our own system and schools. It could help, but there is no guarantee it will because other countries consist of entirely different communities, populations, and cultural contexts.

China

- If we cannot be Finland, then maybe we could go the route of China. A sample of Chinese students who participated in recent PISA tests outperformed the rest of the world—including Finland. But only a sample from Shanghai was tested, and Shanghai is a city with a reputation for its education quality and high-performing students.

- Of course, several of the highest-performing countries in the PISA tests—including Taiwan, Singapore, South Korea, and Japan—have systems like China's that historically have emphasized test-taking and achievement rankings, in order to be socially, economically, and politically mobile.

Infrastructure, Capacity, and Sustainability

- The three building blocks for assessing and developing education systems worldwide are infrastructure, capacity, and sustainability.

- "Infrastructure" refers to the basic physical resources and organizational structures or facilities—buildings, textbooks, computers, electricity, Internet access—needed for the operation of a school, program, or lesson.

- Evidence from international comparisons suggests that the infrastructure for education—including teacher training, school resources, and curriculum content—needs to be much more

stable if we are to hold our students and teachers to the highest standards of accountability. What's more, having access to basic physical resources, organizational structures, facilities and other infrastructure elements is crucial to the development of education.

- "Capacity" refers to whether someone has the knowledge and skills necessary to do, experience, or understand something. Teachers need to know how to teach content to students. Students need to be able to learn both independently as well as in response to direct instruction.

- "Sustainability" refers to the ability to continue a defined behavior, program, project, or system indefinitely—or at least beyond the introductory phase. Whatever changes educators and policymakers ultimately decide to implement when reforming education must be sustainable beyond the initial implementation. Sustainability becomes the responsibility of the people who implement the program as well as the local stakeholders. This means that communities of parents, teachers, and students must "own" their education system, and must invest in its development and improvement.

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Internationally comparative education data is being collected systematically and regularly by education systems and organizations around the world.

Big Data

- The application of big data also contributes tools and knowledge to build capacity to help teachers and administrators make decisions. This can be done through training and professional development opportunities for teachers and school leaders, which in turn helps them use big data for their own education decision making.

- The good news is that a great deal of comparative education data already exists. We do not have to create new data sets, or new programs of large-scale assessment. What's more, internationally comparative education data is being collected systematically and regularly by education systems and organizations around the world.

- The World Bank collects massive amounts of data on education worldwide. Its rationale is that education is, in many ways, an economic investment and indicator. For decades, the data collected by the World Bank was not publicly accessible; but in recent years, the World Bank has released its research publications through its Open Knowledge Repository, which exponentially expands the amount of analysis and exposition on education research available.

- This vast amount of new information also changes expectations about how knowledge is commoditized, exchanged, and integrated into the fabric of life. With much more international education information and data publicly available, it is reasonable to expect a significant impact.

Shifting School Culture

- Many different approaches to shifting school culture have been suggested by reformers hoping to improve the consistency and quality of education. However, only a few approaches have been shown to encourage significant changes.

- For example, one way to shift school culture is by changing the discourse by revising language and policy about education. This is the most common approach and has been shown to have the least sustainable effect. This approach can even have detrimental effects on education practice or be negatively received by educators.

- Another way to shift school culture is to systematically shift expectations for day-to-day behavior and activity. This is an approach to culture shift that is targeted more at the school and classroom level, and operates on the assumption that the kinds of changes that make the most difference are based on what teachers and students do every day.

- The most consistent way to shift school culture and improve education is to take these steps:
    - Identify essential infrastructure.

    - Build on the infrastructure that exists.

    - Create capacity by identifying strengths and weaknesses in student and teacher knowledge and skills, and enhancing strengths while addressing weaknesses.

    - Engender sustainability by ensuring that decision making is imbued with local voice and contextual consideration.

Context Is Crucial

- Education is never an isolated enterprise. China, Finland, and the United States all bear witness to how context can influence education. While stable, relatively wealthy, and culturally homogenous nations have a natural advantage on large-scale, standardized tests, there are much more than numbers behind student-achievement rankings on internationally comparative tests.

- Going by achievement rankings alone, it could be construed that the American education system is failing American youth, and, as a result, failing the nation. However, achievement rankings do not paint an accurate picture of education in the United States or abroad, because they do not account for context. But this also does not mean policymakers or educators should ignore the rankings or toss out the international studies.

First Steps

- International, large-scale education assessment data involvement builds assessment and evaluation capacity at the national level, but also at the local levels. The process of participating in TIMSS (Trends in International Mathematics and Science Study) or PISA can build a scaffold for connecting big data with what local educators are already doing by developing local organizational structures, practices, and resources that provide access both to the process of administering assessments as well as gaining access to the data or results from the assessments. This is a crucial first step, which comprises infrastructure.

- Big-data application also requires tools and knowledge of how to use them for teachers and school leaders to make their own decisions and use the data for evidence. This can be done through training and professional development opportunities for teachers and school leaders, which in turn helps them use big data for their own education decision making. This is capacity building.

- Finally, teachers and local school leaders need to "own" and be empowered by big data, rather than being defined, controlled, or punished by it. Evidence also suggests that professional teacher development using big data needs to happen *among* teachers and local school leaders rather than *to* them. This way, the application of big data to local problems and contexts becomes something that happens at the local level, rather than a prescription handed down from central administration.

Suggested Reading

Bereday, "Sir Michael Sadler's 'Study of Foreign Systems of Education.'"

Berliner and Biddle, *The Manufactured Crisis*.

Bray and Thomas, "Levels of Comparison in Educational Studies."

Chabbott and Elliott, eds., *Understanding Others, Educating Ourselves*.

Noah and Eckstein, “The Development of Comparative Education.”

Phillips and Schweisfurth, *Comparative and International Education*.

Questions to Consider

1. What is the most important outcome of education worldwide?

2. Why is education structured similarly around the world?

3. What is unique about education in different countries, cultures, and systems?

4. When is it appropriate to borrow educational methods and activities from one country, culture, or system to another? When is it inappropriate? How do we know?

5. What is big data, and why is it important to understanding how the world learns?

6. Is the global education crisis “manufactured,” or is it real?

The World Learns from Horace Mann

Lecture 6

Education is "the great equalizer," according to Horace Mann, a strong advocate of public education. The American education system today reflects the revolutionary ideals expressed by Mann: universal enrollment, compulsory attendance, public funding, and a fundamental belief rooted in Thomas Jefferson's "A Bill for the More General Diffusion of Education." Jefferson believed that schools are local bastions of democracy because they create educated citizens. In this lecture, we'll examine the history of education in America, focusing on key thinkers, such as Horace Mann and James Bryant Conant. We will also explore how the governing ideologies behind universal education came about in the United States, and how some of these ideas became central tenets of education around the world.

Horace Mann

- Horace Mann is often called the "father of the common school" in the United States because he was the first to institutionalize a government-sponsored and government-regulated system of education.

- Born into poverty in Franklin, Massachusetts, on May 4, 1796, Mann, mostly self-taught, rose to serve in the state assembly before receiving an appointment in 1837 to become Massachusetts' first secretary of education.

- As secretary, Mann led an effort to reassert state influence over the local schools, including the collection and dissemination of school-related information throughout the state. He founded a publication for teachers, *Common School Journal*. Most important, Mann developed enduring principles for universal, publicly funded schools, taught by well-trained teachers.

- In 1848, Mann resigned from his state post to take the seat in Congress that had once belonged to John Quincy Adams. Eventually, Mann accepted the presidency of Antioch College in Yellow Springs, Ohio, a new institution at the time that was committed to his beliefs in non-sectarianism and equal opportunity.

Training Schools for Teachers

- The organizational changes that Horace Mann institutionalized were groundbreaking and set the stage for the development of mass education in the United States, and later throughout many other countries. For example, Mann installed a system of state-financed and state-centered compulsory education for all in Massachusetts. He coupled this with the establishment of training schools specifically for teachers.

- The emphasis on teacher quality and preparation was among the more lasting effects of Horace Mann's reforms, and is where much internationally comparative data on education focuses attention today.

Horace Mann established training schools specifically for teachers.

- The demographics of the teacher workforce were also shaped, perhaps permanently, by Mann's decision to shift the teacher workforce from males to females. Prior to this decision, teachers were mostly male because they were itinerant, and traveled from place to place, following the agrarian seasons. In addition, mixed-age-group classrooms often made it unsafe or difficult for women to manage the students.

- To fulfill Horace Mann's vision for a common school system across Massachusetts, he had to have an affordable teaching workforce. Women teachers were less expensive than men. What's more, the idea was that teachers were to be more like trained technicians than educated scholars.

James Bryant Conant

- James Bryant Conant was the chief architect of the public high school in the United States; yet, he was not a supporter of the mass, or universal, component of education so strongly advocated by Horace Mann.

- Conant believed in the selective process of schooling. In other words, he held that formal schooling should educate the best and the brightest students, regardless of their social or economic background. In Conant's opinion, rather than churn out masses of basically literate youth, formal education could provide opportunities for social and economic mobility—and for selected, deserving individuals in particular.

- Conant's interest in chemistry, and a strong primary education, led him to Harvard in 1910, from which he graduated in 1916 with a doctoral degree; he was eventually named Harvard president in 1933. Like Horace Mann, Conant strongly believed in equal access to education for girls and boys alike. He eliminated separate classes for Radcliffe and Harvard students, and admitted women into the law and medical schools.

Meritocracy

- In this lecture, we will survey some components of the "opportunity conundrum" in U.S. education, including accessibility, accountability, evidence-based decision making, and meritocracy.

- One of the most striking and enduring ideas behind Conant's education ideas was the concept of "meritocracy." Conant rejected advancement through hereditary privilege; he supported a fluid social structure that would allow talented people from any class to rise to positions of importance and responsibility.

- Conant believed that small high schools should be eliminated because they were expensive and often provided poor-quality education. He believed it was inefficient to maintain effective programs for just a few students. Conant also felt that too many schools were not academically challenging, in part reflecting course content developed on stereotypical gender, social, or ethnic lines. At the same time, Conant supported vocational education as a way to reduce dropouts.

- By mixing students of vastly different backgrounds and abilities in the same school, Conant believed the "comprehensive high school" could minimize class distinctions, and avoid many of the social cleavages that characterized other societies. At Harvard, he sought to recruit a broader range of students, including young women and financially disadvantaged students.

Accessibility and Accountability

- After meritocracy, the next component of the "opportunity conundrum" in American education was the idea of "accessibility." Accessibility was one of the virtues and objectives of education promoted by both Mann and Conant. It meant that literally everyone was a stakeholder in the schools, even if the immediate "clients" were students and parents.

- The "accountability" assumption suggests that schools—and in particular, school principals and classroom teachers—should be responsible for student achievement, often more so than even the students themselves. This assumption goes back to the notion that formal education is a mass, compulsory institution. It is the most overt social, political, and economic requirement that any young citizen must complete.

- But a second, more subtle, reason why schools are held firmly accountable for the performance of youth is that schools in the United States have gradually extended their responsibility beyond academics to additional realms ranging from health and nutrition to sports, theater, and other extracurricular activities.

- Schools have always served some social, political, or economic purpose beyond academic learning; however, beginning in the 20th century, nonacademic services were formally incorporated into the country's education structure. Therefore, the accountability component of the "opportunity conundrum" is still present, but performance is compromised by all the nonacademic functions of formal education.

- This is where the intersection of key school and nonschool factors becomes relevant. This is where the conflict between access and entitlement assumptions, and our achievement expectations, comes to imbalance our notions of what American schools and teachers can, should, and will do.

Evidence-Based Policy Making

- The fourth and final component of the opportunity conundrum is a concept known to educators as "evidence-based policy making." While evidence sounds like a positive feature, in principle, data alone sometimes overlook related virtues such as experience and cultural context. In a nutshell, data-based policy making is the boon and bane of the one-size-fits-all input known as the standardized test.

- A principal reason for assessing the performance of students and schools is to obtain evidence from which we can conclude something about the degree of equality and quality attained in an education system. By seeing who performs highly—and who does not—it is possible for teachers, principals, and policymakers to identify where disparities exist between individual students, classrooms, and schools. And by analyzing these differences, decision makers can implement policies to remedy poor performance.

Formative and Summative Assessments

- Standardized achievement tests can miss a great deal, however. To understand why, consider the following. We have two principal means of measurement in education: formative assessments and summative assessments.

- A formative assessment is a way to monitor student learning, assess student strengths and weaknesses, and address problems immediately.

- A summative assessment evaluates student learning and compares it to a benchmark; it usually takes the form of a midterm, final exam, or standardized annual test. Summative assessments represent the sum of knowledge that a student has learned up until a given point in time. Afterward, there usually is no opportunity for a teacher to adjust the instruction. Students either do well on these tests, or they do not.

Oversimplified and One-Dimensional

- The aggregate performance of state-level and district-level cohorts in summative assessments can have profound effects for the future on available resources, required curricula, and in-class teaching methods. While the results of these state, national, and international assessments usually do not directly impact the individual students being tested—they have been measured, and they move on—the aggregate scores are widely accepted indicators of learning, and have major impacts on education policy making, funding, and practice locally, nationally, and internationally.

- One criticism of evidence-based policy making is its vulnerability to the potential oversimplification of more complex contexts and issues, which can impact teaching and learning. In other words, this kind of summative, quantitative evidence is often one-dimensional. There are rich contextual elements that quantitative analysis cannot capture the same way that qualitative analysis does. There are more reasons why nonschool factors influence students' test performance than there are reasons why school factors like teaching influence it.

- Scientific education research is still used to make social policy decisions, based on the assumption that the findings are "scientific." However, contextualization is frequently lacking in education research evidence, and the resultant policy making. This means that the evidence for education policy making may consist of unsubstantiated findings, or one-shot phenomena, that might take precedence over long-term trends and cultural characteristics. It also means that education policy making based exclusively on empirical research evidence is neither desirable nor valid.

Suggested Reading

Cremin, *The Republic and the School*.

Lee, *Crusade against Ignorance*.

Tyack, *The One Best System*.

Tyack and Cuban, *Tinkering toward Utopia*.

Wiseman and Baker, "The Worldwide Explosion of Internationalized Education Policy."

Questions to Consider

1. Is education a realistic way to solve social, economic, and political problems in the wider society?

2. Does the impact of education on society, the economy, and the political system differ depending on the country, culture, or system?

3. Is education really "the great equalizer" around the world?

4. Is education really meritocratic around the world?

5. What is the accountability expectation?

6. What is formative versus summative assessment?

When Culture Invades the Classroom

Lecture 7

In this lecture, we will investigate the concept that nonschool factors, such as poverty or cultural context, are among the strongest significant predictors of learning—even more so than school factors, such as curriculum, teacher quality, and school resources. Culture and financial hardship typically fall outside the control of schools, teachers, policymakers, or reformers. To explore the influences of such nonschool factors as financial hardship and cultural context in the development of education and learning, we will examine school systems in South Africa and China.

Financial Hardship and Cultural Influences

- South Africa, which is characterized by extremes in poverty and wealth, illustrates how poverty can dramatically influence education. By contrast, China—where poverty is receding—demonstrates the sustained power of social culture in the classroom. In both examples, societal issues persist outside the school walls and, in the grand scheme, usually win.

- It is well known that students from affluent backgrounds tend to outperform their less-advantaged peers—both in school and in the labor market—almost everywhere around the world. As a result, school-reform initiatives that emphasize factors under the direct influence or control of the educator—while ignoring external influences such as financial hardship and culture—are susceptible to failure.

South Africa

- To estimate the impact of student poverty on teaching and learning in South Africa, we will draw from comparable, cross-national quantitative data.

- In three cycles of Trends in International Mathematics and Science Study (TIMSS) testing across nearly a decade, South Africa

Low scores on the TIMSS education assessment signal a potentially dismal future for South Africa's economic development.

ranked dead last in student achievement, among all participating countries. The TIMSS cross-national data is based on comparisons of approximately 40 countries worldwide.

- In South Africa—a nation that is dealing with a legacy of extreme social and political inequality—low scores on the TIMSS education assessment signal a potentially dismal future for the country's economic development. Furthermore, the gap between high and low achievers in the testing results is also associated with the gap between advantaged and disadvantaged groups of students across South Africa.

- This brings to mind the sociological impact of the HIV/AIDS epidemic in South Africa. Most nonwhite South African students live in communities with the highest HIV/AIDS infection rates in the world—and half are at risk of not finishing school. Furthermore, teachers and educators—who constitute the largest

white-collar profession in the country—reflect the same high-risk sexual activities and infection rates represented broadly in the adult population.

- During the 20th century, countries throughout the world made large investments in public education to expand and increase the social and economic potential of their citizens. The governing rationale was to make youths more economically productive. The means consisted of making schooling accessible to every youth, and increasing students' levels of education attainment. However, the attainment of ever-higher levels of education has not necessarily ensured future economic productivity, social literacy, or even productive citizenship.

Human-Capital Theory

- Throughout the 20th century, a culture of education spread worldwide that perpetuated its own mythology—a belief that high achievement and continued progress in school necessarily leads to high economic returns for nations, and, for individuals, escape from poverty and marginalization.

- "Human-capital theory" suggests that after we invest time and financial resources in education, training, and opportunity-enhancing activities, then we will obtain future benefits, usually in the form of income or economic returns.

- The human-capital approach to schooling emphasizes the exchange value of the education we receive. Moreover, the human-capital rationale suggests that schooling is an efficient and appropriate process through which students acquire skills and knowledge needed in the labor market.

- Some maintain that a human-capital rationale assumes schooling has cumulative beneficial effects on an individual's productivity, occupational prestige, and income. What's more, investment in human capital is believed to produce economic growth at the individual, local, and national levels.

- Schooling is, therefore, a formal tool through which we, as individuals, invest in ourselves. The downside is if we do not achieve the desired effect through schooling, then not just one student is likely to fail economically; many of them will.

- Nonschool factors—such as those in poverty-stricken and marginalized South Africa—directly impact the potential returns on the investment in school factors. Accepting this forces us to broaden our understanding of what are sustainable solutions to common problems in mass schooling, such as learning, testing, and the attainment of employable skills.

China

- Education policymakers in the West often look to China and other East Asian communities for examples of best practices in education. But increasingly, such attention is on the role that education plays in linking children and their creativity to the labor market, as well as to economic growth and technological innovation.

- By drawing on internationally comparative data from China's financial center in Shanghai, as well as from Taiwan and the formerly colonial communities of Hong Kong and Macau, we can examine the relationship of school activity among 15-year-olds to measured education achievement, creativity, and innovation. While there are significant limitations to the data, some research suggests that students themselves play the most important role in developing their own knowledge creation and innovation, even when teachers directly contribute.

- Among cross-national assessments, the Program for International Student Assessment (PISA) is one of the best assessments of the impact of education on creativity and innovation. PISA measures the potential for students to create new knowledge (rather than measuring the degree to which students have mastered a curriculum).

- The PISA data have been rigorously and representatively sampled and administered so that while there are limitations to the

information, based on its inability to fully capture local contexts and communities around the world, it still provides a rare window into a large number of formal education systems. A total of 78 countries participated in the PISA data cited here.

- If we look at average national student performance in reading, mathematics, and science using the PISA scores, we note that Shanghai, China, outscored all other participating countries in every performance category. Hong Kong was close to the top—just below Shanghai, Korea, and Finland—while Taiwan and Macau came in significantly above the average in mathematics and science performance, even though they were significantly lower than the average in reading performance.

Confucianism

- A significant factor at work in Asian education systems is a culture of Confucianism. According to Chinese studies scholars such as Xinzhong Yao, Confucianism—at the most basic level—is a system of ethics, education, and statesmanship that stresses love for humanity, reverence for ancestors and parents, and harmony in thought and conduct. From the perspective of Confucianism, all human relationships involve a set of defined roles and mutual obligations.

- Confucianism is the cultural context for education in Chinese societies, and it prizes and reinforces reverence for precedent, and conformity with the status quo. Some characteristics—or at least practices—of Confucianism tend to overlap strongly with emphases in the Asian education system on standardization and memorization—the very qualities that we tend to think "kill creativity."

- Schools are often considered incubators of innovation; however, in China, schools might be laboratories for conformity within Confucian culture. Some educators who study Chinese or Confucian culture suggest that this context limits Chinese students' ability to innovate and create because it requires conformity and discourages questioning or divergent learning.

- If this is true—and if schools truly kill creativity in China, largely due to the Confucian cultural context—then the cycle of innovation and development in education will be hampered, if not crushed.

Cycle of Innovation and Development

- The cycle of innovation and development in national education systems ideally passes through the following three stages:
  - First, students and teachers acquire knowledge and skills through formal education.
  - Second, students and teachers engage in critical thinking and problem-solving activities, which train the students to apply knowledge to real-world problems.
  - Third, students and teachers become producers—or creators—of knowledge through collaborative learning activities.

International Indicators of Innovation

- The key is to learn how to measure knowledge creation in schools and then measure the impact of this new knowledge on innovation and development in society. An effective way to accomplish these measurements is to analyze international indicators of innovation, such as those generated by individual companies, trade groups, and government reports.

- In 2010, China accounted for 20 percent of the world's population, 9 percent of the world's gross domestic product, and 12 percent of the world's research and development expenditure. At the same time, it generated only 1 percent of all patent filings or patents outside of China. These figures tell an important story about the innovation capacity and performance of China. The low indicators of innovation and creativity suggest that China's future as a leader in the global knowledge society and economy is at serious risk.

- The World Bank provides other indicators that measure innovation, knowledge, and potential for development. Its data show that Taiwan ranks above Hong Kong and the rest of China in all three

indicators of innovation and creativity. This foreshadows a potential crisis of innovation and creativity in China relative not only to the rest of the world, as demonstrated by the patent shortfall, but even to its extended communities in Taiwan and Hong Kong.

Fostering Knowledge Creation

- Comparative education scholar William Cummings has suggested that even though formal education provides young people with a solid foundation from which to become learners, education is, nevertheless, less effective at guiding students to become "critical thinkers or mature knowledge creators" in ways that lead to creativity and innovation.

- The problem is that education systems are increasingly organized to create high academic achievers based on standardized tests that rely heavily on memorization rather than on creativity and new knowledge development. In other words, formal education systems tend to prepare students to be passive rather than active knowledge creators.

- Cummings takes this reasoning a step further, asserting that the education system in many East Asian countries—from grade school through college—does not provide students with experiences that foster knowledge creation.

Suggested Reading

Coleman, *Equality and Achievement in Education*.

Kozol, *The Shame of the Nation*.

Schultz, *Investing in People*.

Wiseman, "The Impact of Student Poverty on Science Teaching and Learning."

Questions to Consider

1. What is a knowledge society? What is a knowledge economy?

2. What did the Coleman Report tell educational researchers and policymakers about the impact of school versus nonschool effects?

3. If school factors seem to be shared across different systems around the world, are nonschool factors also shared from system to system and country/culture to country/culture?

4. How does poverty predict teaching methods around the world?

Germany and Japan's Shattered Expectations

Lecture 8

One of the most significant international benchmarks of student learning is the Program for International Student Assessment (PISA). Once every three years, it assesses the reading, mathematics, and science skills of approximately 28 million 15-year-olds. PISA exams are considered unique and particularly effective because they are designed to assess what students know—and can apply in their own lives—rather than test a specific school curriculum. While PISA assessments are by no means fail-safe, they are taken quite seriously by most participating education systems. In this lecture, we'll explore the phenomenon of "PISA shock" and analyze the education systems of the world's top PISA performers and reformers.

"PISA Shock"

- It used to be argued that education was significant because it embodied culture and helped assure the survival of a particular civilization. Today, however, the education debate is usually about economics and competitive advantage. For example, while the United States regularly scores somewhere below the middle of the pack in international assessments of student achievement, we still manage to top the economic and political power indicators decade after decade.

- One of the most visible responses to international comparisons of education is known as "PISA shock." After its first participation in PISA in 2000, Germany scored near the middle, but the fact that Germany was not at the very top of the scale was what shocked German educators and public more than the middling score itself.

- Japan had its own version of PISA shock after its reading-achievement test scores declined between 2000 and 2003—and then again after it dropped in math achievement, between 2003 and 2006.

- PISA assessments have become more than simple education checkups. They have come to signify all that is right—or wrong—with national education systems, and they are sometimes revelatory of more general national weaknesses.

- In countries that perform below expectations in PISA, there are three main avenues of response:
  - A government can increase centralization and control of education.

  - A country may institute "converging evidence" approaches, such as Japan's push to conduct research and make data-driven decisions about learning and performance. "Converging evidence" refers to the principle that evidence from independent, unrelated sources can "converge" to strong conclusions.

  - A country may exhibit a nonresponse, as in the United States, which has tended to ignore PISA results.

A Basis for Policy Initiatives

- Because PISA data are standard and quantifiable across countries, the assessment is considered a legitimate evidence base for education policy making and reform. And since policy making is more frequently a product of diplomacy than of coercion, PISA results become an effective policy mechanism on the agendas of many national policymakers and education systems.

- These policy initiatives typically take one of three forms: implementing education standards and accountability; monitoring and evaluating education equity; and improving teacher quality.

Finland

- According to the Organisation for Economic Co-operation and Development (OECD), Finland, Poland, Japan, and Indonesia are examples of PISA "strong performers" and "successful reformers." Among high performers, Finland sits at the top of the PISA rankings.

- Finnish educators and policymakers have expressed surprise at the ways in which the international assessments launched them into the spotlight more than a decade ago, as has been observed by Sotiria Grek, at the Centre for Educational Sociology at the University of Edinburgh. She quotes Finnish education researchers: "At a single stroke, PISA has transformed our conceptions of the quality of the work done at our comprehensive school and of the foundations it has laid for Finland's future civilization and development of knowledge."

- The vital role of Finland's teachers in the country's school system has become a model for other countries. Pasi Sahlberg, who has served in the Finnish Ministry of Education and Culture, notes that there are seven significant aspects about teaching in Finland:
    - Teaching is the most popular profession (five teaching applicants for every job).
    - Teachers have a strong social mission.
    - Teaching in Finland requires a masters-level education.
    - Finnish teachers have less classroom time and more time for reflection and preparation.
    - Finnish teachers have relative professional autonomy.
    - Principals are teachers.
    - Parents trust schools.

- It is also worth noting that Finnish schools have no formal teacher-evaluation process, no merit pay, no census-based standardized tests, and no ranking of schools. In short, Finland empowers high-quality teaching by attracting the most capable individuals who are committed to the profession. It then retains teachers in their jobs by maintaining respectful, and inspiring, professional working conditions.

- Sahlberg also observes that PISA results demonstrate that the strongest international performers typically have the least variation between schools, but also relatively high levels of student variation within schools. He says this reflects policies of inclusion as well as attempts to ensure system-wide equity in education.

Poland

- Poland—which first had to break with decades of domination by the former Soviet Union and communist rule—is among 13 countries that have shown improvements in average performance on PISA tests since 2000.

- These improvements come from two sources: (1) development of competencies among the lowest-performing students; and (2) development of competencies among girls, in particular.

- Poland found that while many Polish students performed in the upper range of PISA, the country also produced a significant group at the bottom of the performance distribution that scored far below average. Because this lower group pulled down the country's average score, Poland's educators and policymakers wisely discovered that if they focused on the lowest-performing students, they could then raise the country's overall average.

- In a similar vein, Poland's decision to focus on the development of female students' competencies was strategic. Poland's female student population constitutes the majority of students who continue on to the highest levels of secondary school (boys tend to leave school earlier, on average). Therefore, by focusing on girls' education, Polish educators realized they had a greater chance of lifting the overall scores of Poland's students.

Japan

- Japan has typically scored high on PISA assessment results since the survey began in 2000. More recently, however, Japan found itself in an unlikely position where its average student achievement dropped for the first time. Japan's first response was to collect and

interpret its own data about what worked the best among different Japanese prefectures (districts) and cities. Researchers discovered several interesting school and nonschool factors at play.

- Regarding attitudes toward learning, researchers found that only a small percentage of students read for enjoyment; only a small percentage of students looked forward to mathematics lessons; and only a small percentage of students were interested in learning about science. In addition, only a relatively small percentage of students said that teachers helped them when they needed it.

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Researchers discovered a high incidence of three generations living under one roof in consistently high-performing prefectures.

- Japanese researchers also identified characteristics of consistently high-performing prefectures: a high incidence of three generations living under one roof; a low percentage of students who watched TV for 4+ hours a day; and a high percentage of students who reviewed their school lessons at home. High-performing schools had a track record of implementing small classes; daily concerted reading activities; supplementary instruction; and a team-oriented approach among faculty.

- Policy responses came in two areas: (1) improvement of learning content, and (2) improvement of the education system. Improvement of learning content included revised courses of study through national standards, systematic content revision, and increased government screening of textbooks.

- Improvement of the education system included reduced class sizes, increases in the number of new teachers, enhancement of continuing education and professional development for teachers, revision of the school management model to create more involvement and empowerment of the community, and development of an accountability system from the national to the local levels.

- What is important to remember about Japan is not exactly what reforms it implemented, but how the country decided which reforms to implement. The process was a balance of evidence gathering, school and nonschool contextual considerations, and a set of decisions about which school factors could be adjusted to make the most impact on teaching and learning.

Indonesia

- Indonesia's vocational-education initiative is part of that country's orchestrated response to the very low PISA scores it recorded early last decade. The country's response to the education crisis was to assist the educated student population enter Indonesia's workforce and serve its developing economy. Theirs is an example of a research-driven, national-model development that seeks to understand the links between student learning and performance.

- Burhanuddin Tola—who served as the director of the Centre for Educational Assessment in Indonesia's Ministry of National Education—notes that Indonesia is approaching education-equity issues using vocational and polytechnic education as a policy response.

- The context for this reform approach is clear. Indonesian companies will struggle to fill half their entry-level positions with fully qualified candidates by the end of the decade, according to a recent report by The Boston Consulting Group. The consultants estimate that Indonesia's engineering field is expected to experience some of the worst shortages, with the projected deficit in engineering graduates expected to increase to more than 70

percent by 2025. The report also suggests that many senior managers will continue to lack the global exposure and leadership skills they need to succeed.

- While enrollment figures in Indonesian schools through the first nine years of basic education have improved significantly in recent years, only just over half—51 percent—of the population ages 15–18 attended school at the upper secondary level in 2012 (well below the Southeast Asian average of 65 percent). This is despite the fact that the government is constitutionally obligated to direct 20 percent of the national budget towards education, something observers say does not happen in reality.

- According to the 2012 PISA results, 15-year-old Indonesians were rated 64th out of 65 countries in mathematics, science, and reading. Still, the government set a target of 50 percent upper-secondary enrollment in vocational schools by 2015, and 70 percent by 2025. Technical education is offered in six broad streams: technology and engineering; information and communication technology; community welfare; arts, crafts, and tourism; agribusiness and agro-technology; and business and management.

Suggested Reading

Bieber and Martens, "The OECD PISA Study as a Soft Power in Education?"

Hirsch, *Cultural Literacy*.

Martens and Niemann, "When Do Numbers Count?"

Meyer and Benavot, *PISA, Power, and Policy*.

OECD, *Lessons from PISA for the United States*.

Questions to Consider

1. What explains such dramatically different responses by countries to perceived educational (and economic) crises?

2. Why are international assessments like TIMSS and PISA important?

3. What does this information contribute to discussions about educational reform and improvement?

Borrowing Foreign School Cultures

Lecture 9

Improving education is a challenge that is often eased by comparison. We are tempted to adapt or adopt examples of teachers, classrooms, schools, or education systems that exhibit high levels of student learning and performance. This lecture will push you to think critically about which countries and cultures are comparable and which are not. Also in this lecture, we will revise the classic "apples and oranges" rationale to discuss what is and what is not a useful or appropriate comparison.

Target Comparisons

- The most popular type of comparison is the target comparison. These are usually more aspirational than realistic, and focus on high-performing systems and growing economies.

- For example, in the 1980s, Americans compared themselves to the Japanese and their education system because Japan's economy was rapidly expanding while the United States was just coming out of the 1970s recession.

- In the 1990s, the United States shifted its focus to compare American education with that of the so-called Asian tigers—including Singapore and South Korea—again because of their rapid economic growth. Now, the focus of America's attention is on Finland and Shanghai, China.

- In the 1950s and 1960s, Americans compared themselves to the Soviet Union because that country was our chief competition politically and technologically.

- While these target countries are all top achievers, they are also our competitors in other ways. The question is whether these types of comparisons are wise or appropriate.

Finland and Abu Dhabi

- The establishment of Finnish-style schools in the United Arab Emirate of Abu Dhabi demonstrates that even inappropriate comparisons can have significant positive effects, if implemented well.

- In 2010, education officials in Abu Dhabi decided to establish two Finnish-style primary schools and imported 50 Finnish teachers to work in them. In the years since these schools were established, the Finnish teachers have used their approaches to train other teachers and to influence classroom teaching.

- The results of this target comparison are still being analyzed, but it seems as if the program worked in many ways—both those that were purposefully scripted and those that were unintended. For example, Finnish teachers have changed the kinds of instruction students in these schools receive and improved students' communication competence in English. At the same time, the teachers themselves have gained new insight about the struggles of immigrant students.

- Based on this remarkable example, it's tempting to say that target comparisons are doable and can be appropriate, but there are additional considerations in such comparisons.

Finland and the United States

- In many cases, target comparisons are inappropriate because they rarely align in terms of school and nonschool factors. Again, let's consider the case of Finland, which is used as a target comparison by many other national education systems.

- Finland's education system does not emphasize testing, is based on a series of equity policies and reforms, and is well resourced across the nation's schools. Teachers in Finland have status and are respected professionally. They are highly trained and mentored, and often co-teach in their classrooms.

- Outside of school factors, the Finnish population is largely homogeneous in terms of racial and ethnic diversity and socioeconomic status; and there are fewer disadvantages based on gender than in many other countries. For example, Finland's population is 93 percent Finnish; 94 percent of the population speaks Finnish; 78 percent of the population is Lutheran; and Finland has a social welfare system that ensures that virtually no one falls below the poverty line.

- By contrast, in the United States, there is far more diversity and variability in the factors outside of schools. The U.S. population is less than 80 percent white; approximately 80 percent speaks English exclusively; 51 percent are Protestant; 24 percent are Catholic; and 15 percent of the U.S. population lives below the poverty line.

- Evidence has demonstrated that the countries with the "best" education systems also have the least amount of variation between their highest and lowest achievers, whereas the "worst" education systems typically have the most variation between their best and their worst schools, teachers, and students.

- If we look at variation distributions within each country, by these indicators, we find that Finland's population varies much less than does the U.S. population. What's more, we also find that some states and districts in the United States do not represent the average at all.

- These differences outside of schools have a significant impact on how teachers teach and students learn. Therefore, making a target comparison between Finland and the United States is highly inappropriate unless the comparison is to a handful of schools or a specific district that more closely resembles the Finnish school and reflects the accompanying Finnish nonschool characteristics.

A "Cognitive Olympics"

- The dangers and abuses of target comparisons are many, and they unfortunately outweigh the positive examples. It is possible to manipulate cross-national comparisons of education systems and

student achievement based on political and economic agendas of reformers, policymakers, and even educators.

- Although there are many school and nonschool factors that influence teaching and learning, it is just as important to consider how we compare systems, and examine the interaction that certain factors may have with each other.

- Some critics maintain that using comparisons as a sort of "cognitive Olympics" is an inappropriate use of cross-national comparisons of student achievement because of the manipulability and potential ambiguity of the comparisons.

- Others suggest that the main factors on which most national comparisons are based—student achievement scores—may be inappropriate when comparing classrooms, schools, or larger systems of education.

- Still others argue that nations engage in comparisons of education systems more to attain some sort of national or systemic legitimacy rather than to change and improve their education systems.

Student Performance and Economic Status

- In assessing national education systems, it is crucial to avoid comparing "apples and oranges." For example, the governance structure and education curriculum in the United States system is extremely localized and varies enormously from state to state and district to district, whereas in Japan, France, East Asia, and other more centralized countries, the opposite is true.

- Another factor to consider when developing strategic comparisons is that the instruments of evaluation and assessment themselves might be unreliable. Internationally comparative data sets and studies provide relatively sound comparative information only if researchers and policymakers consider each nation's unique situation and context and use these considerations as filters when drawing conclusions and suggesting policy.

- The results of internationally comparative tests of student performance are frequently interpreted to represent the economic status of a nation. However, studies have demonstrated that while direct spending on education and the overall strength of the economy may positively associate with student achievement, this relationship is shaky and is not supported by other measures of economic development and productivity.

- That is bad news for those developing nations that are contributing as much as twice as much of their government funds to education as economically strong nations like the United States. What's more, these findings suggest that perhaps education itself is not the best indicator of or contributor to national economic development.

Significance of Cultural Context

- Another criticism arising from cross-national comparisons of student achievement is that some nations' education environment and curricular exposure, in particular, make cross-national comparison inappropriate.

- In the United States, some people have argued that school curricula are "a mile wide and an inch deep"—leading students, teachers, and classrooms to lack focus and vision. Characteristics of the education system itself, such as curricular content and coverage, make education policy resulting from comparisons of achievement in these fundamentally different systems misguided at best.

- Cultural, contextual, and organizational characteristics of education in different systems or communities worldwide prevent straightforward cross-national or even cross-context comparison of student achievement. The fact is that cultural contexts uniquely shape education and economic communities and learners.

The Baker and Westbury Debate

- One of the most interesting debates along the line of education context and the developmental stage of education took place in the early 1990s between two prominent American comparative

In the United States, some people have argued that school curricula are "a mile wide and an inch deep"—leading students, teachers, and classrooms to lack focus and vision.

education and international testing scholars, David Baker and Ian Westbury. Their debate concentrated on the interpretation of student achievement rankings in the United States and Japan, given the instructional opportunity and curricular exposure in each nation.

- Baker argued that despite the fact that Japanese and American students were exposed to different math curricula at the same age and grades, American students really were scoring below Japanese students. Westbury argued that the different exposure to curricula in Japan and the United States meant that the Americans were not any worse performers; rather, the Japanese students had learned something that American students had not at that stage in their education.

- Family background and socioeconomic status are often insurmountable obstacles to appropriate cross-national comparison of schooling, including standardized outcomes such as student achievement.

- There is also a large body of literature that suggests that the background influences of students and education professionals are always such significant predictors of student achievement that cross-national differences in student achievement mean nothing.

Strategic Comparisons

- It is doubtful that cross-national comparisons of student achievement and their use as indicators of national economic potential and productivity will ever end. If that is the case, then strategically systematizing the analysis of comparative education information is much more important and productive than simply playing politics with the results.

- Despite their dangers and potential for abuse, comparisons are crucial to improving education. The key is to approach them thoughtfully and strategically. There are two approaches that will yield the most helpful results and can lead to genuine recommendations for improved education practice and outcomes. These two approaches are based on the idea that the school and nonschool factors for the systems being compared are as aligned as possible.

- The first step in any strategic comparison is to define what your system is and then compare across units within that system to find where the strengths and weaknesses lie. If we take the United States as the starting point for our example, we first define our education system.

- As one of the largest and most decentralized systems in the world, the U.S. education system comprises many smaller systems, including state school systems and local school districts. More meaningful comparisons often begin with an internal, factor-driven comparison. Comparing across internal systems is the best start to a reform-minded approach to comparison.

- The U.S. education system is characterized by high levels of variation in education quality and performance, and is situated within a community of above-average economic and political influence. The United States is also a developed and industrialized country. Comparisons to peer countries would be most fruitful if those countries shared some of those broad school and nonschool characteristics.

Suggested Reading

Crossley, Broadfoot, and Schweisfurth, eds., *Changing Educational Contexts, Issues and Identities*.

Phillips, *Lessons of Cross-National Comparison in Education*.

Ragin, *The Comparative Method*.

Soh, "Finland and Singapore in PISA 2009."

Questions to Consider

1. How can we strategically compare educational systems and approaches?

2. What is socioeconomic status (SES)? Why is it important to how the world learns?

3. Is the comparison of national averages of student achievement a valid comparison of educational systems or school outcomes?

4. Is comparing education worldwide just comparing apples and oranges?

5. Is student achievement an appropriate indicator of a nation's economic productivity or development?

6. Should educational reform be driven by economic competition and productivity concerns?

7. Do cultural, contextual, and organizational characteristics uniquely shape educational communities and learners, making cross-national comparisons of student achievement inappropriate?

8. Why are educational comparisons so popular?

9. Are standardized tests moving us toward homogenization of what youth know and can do around the world? Who benefits from this sort of global standardization of education?

10. Can real educational comparison occur without tests or other assessment measures?

The Value in Linking School to Jobs

Lecture 10

In this lecture, we will explore what educators, businesspeople, and government leaders perceive as a growing disconnect between our schools and the rapidly changing labor market—the gap between education and the economy. We will focus on renewed efforts around the world to test whether vocational education and training can become a successful portal into skills-based education to prepare young people to participate in the emerging technology-driven knowledge economy.

Toward a Better Education Balance

- The 1970s were marked by a de-emphasis on vocational and technical education—today called "competency-based education." From the 1970s until the early 2000s, the goal was to encourage university attendance in young people.

- At present, education systems have achieved more of a balance between college/university preparation and technical/vocational training. A key difference today, however, is that competency-based education is not just for technical jobs or vocational careers. It is focused on what students can do when they leave school, as well as what they know.

- Until this latest swing in the pendulum, formal mass education and the labor market had, over the past century, come to represent two distinct cultures. And, unfortunately, the knowledge of such subjects as math, science, language, and history had become separated from the skill—meaning that students may understand geometry, but rarely can they convert that knowledge into practical workforce skills such as carpentry or construction.

Distinctions between Knowledge and Skills

- There are significant distinctions between knowledge and skills. Conventional formal education imparts knowledge, but not skills. Students become competent at remembering information and test taking, but not at using information in new situations or in combination with multiple sources of information.

- According to many business leaders, school does not prepare young people for the job market—before college, after college, or instead of college. Industry leaders cite a lack of skills and qualifications among graduating students, and argue that not only are students unqualified for skilled positions, they also lack the soft skills necessary to work with others, make decisions in unscripted situations, or teach themselves new knowledge and skills in the workplace.

Conventional formal education imparts knowledge, but not skills. Students become competent at remembering information and test taking, but not at using information in new situations.

- In other words, many business and industry leaders maintain that there is no connection between what happens in formal school education and what is needed in the world of work. This transition from school to work—and across life stages—reveals that formal mass education and the labor market have become so disconnected that they comprise distinct cultures.

- In a report titled *Out of Inventory: Skills Shortage Threatens Growth for U.S. Manufacturing*, the Manufacturing Institute noted that a "severe shortage of manufacturing skills in the United States has the potential to impede the trend of steady growth in U.S. manufacturing." For example, the problem is that formal education does not prepare students to become welders; nor does it prepare them to value jobs like welding.

Competency Frameworks

- During the 1970s and 1980s, a large number of baby boomers began entering the workforce. Because there were always more than enough applicants to choose from, the skill requirements of employers could eventually be met after some searching. However, as the baby boom generation's entry into the labor market tapered off during the 1990s, the skill deficiencies of young people became more apparent.

- At this time, attempts at vocational education in the United States were less than a perfect success, in part because vocational students were trained to fill the lower echelons of the technical workforce, in jobs with relatively low prestige, and in professions attracting inadequate funding resources and teaching talent. Consequently, the U.S. Commission on the Skills of the American Workforce suggested in 1990 that schools and employers alike were to blame for the economic "dysfunction" in American society.

- Policymakers' solutions to the growing disconnect between schools and the workplace—and between education and the economy—increasingly came to be based on competency frameworks in education.

Apprenticeships

- The concept of apprenticeships has been re-introduced as a way to infuse education with technical and vocational training without necessarily sacrificing the ways that a school prepares students for college or university. Apprenticeship programs enable employers to develop and apply industry standards to training programs for school-based apprentices who are also enrolled in regular school coursework.

- In some U.S. states, such as Florida, apprentices who complete registered apprenticeship programs are accepted by the industry as journeymen. The rationale for apprenticeship programs connected to schooling is that by providing on-the-job training, related classroom instruction, and guaranteed wage structures, employers who sponsor apprentices provide incentives to attract and retain more highly qualified employees and improve productivity.

- In Austria, apprenticeships have become quite attractive to students because they have a good reputation for helping students move from school into the labor market with minimal obstacles. According to recent data, approximately 40 percent of Austrian youth go on a work-based apprenticeship after they finish school.

- In Denmark, apprenticeships were very important during the economic crisis of the early 2000s because they offered young people an easier entrance into the labor market and because companies trusted apprentices to have the right set of skills and qualifications.

Competency-Based Education at Home and Abroad

- In the United States, competency-based education is more about flexibility and reducing the time that students spend in their seats than it is about preparing students for transitioning to work and career. The rationale is that this type of learning leads to better student engagement because the content is supposedly relevant to each student and tailored to their unique needs.

- In countries like Germany, United Kingdom, or Australia, competency-based frameworks—sometimes called National Qualifications Frameworks—are quite different. In these countries, competency-based education is a new approach to vocational education and training, in which skills, knowledge, and attitudes are carefully specified as part of education curricula or policy in order to require students to achieve competence standards, mostly within a national qualifications framework.

- Competence (in the British context) or competency (in the Australian context) can be understood as "the specification of knowledge and skill and the application of that knowledge and skill to the standard of performance expected in the workplace." In other words, the focus of competency-based education is based on industry or labor market standards rather than on subject-based curricula.

Japan: Employer Involvement

- The Japanese model of the transition from school to work provides an interesting example of how linking school and work is mediated through cultural context and culturally established norms or relationships. For example, Japanese high schools have been traditionally more active and involved in helping workforce-bound students directly enter the labor force upon high school graduation.

- Japanese public schools follow a general curriculum through the end of secondary school. There are also more specific vocational training schools in Japan, but the majority of students follow the general curriculum. The general curriculum in Japan not only prepares students for college, but also for lifelong learning.

- Japan's education system caters to employers with a preference for employees who can retrain themselves and who know how to learn. This is crucial because of the tradition of many Japanese employees to remain with one company throughout their lifetimes.

- In addition, Japanese employers often maintain tightly coupled relationships with individual schools and faculty through semiformal contracts. Through their involvement with schools, employers can cull the best and the brightest of the non–college bound youth.

Integrating Academic Knowledge and Vocational Skills

- A large body of academic research supports the concept that education systems that do not integrate academic knowledge with vocational skills are less effective at facilitating students' transition from school to work. A largely unfulfilled challenge for education is to share responsibility for applicable education and training with employers in such a way that young people enter either the workforce or institutions of higher education equally prepared.

- Employers in the United States and around the world maintain that they seek workers with basic competency skills coupled with advanced technical skills. Employers add that the pace of

Apprenticeship programs enable employers to develop and apply industry standards to training programs for school-based apprentices who are also enrolled in regular school coursework.

technological change makes their former methods of work structure and hiring obsolete. Additionally, because of the rapidly shifting nature of applied technology and the permanent nature of critical thinking, employers prefer young people with strong critical thinking skills and knowledge of how to apply their knowledge and skills to specific work situations.

- Over the last several decades, about two-thirds of company training dollars in the United States went to college-educated youth, while only about half the youth population had education or training beyond secondary school. Therefore, in the United States, job-specific training is something that happens most frequently for the college educated and less frequently for those moving directly to work after they graduate from high school.

Ghana: Competency-Based Training

- There are encouraging signs across all major national economies, however, that a convergence between vocational education and general education is finally beginning to be realized. And, as globalization advances, the policy push for a standardized and qualified labor force gains voice.

- Although many developed—and some developing—countries still emphasize vocational training in schools, the clear connection between vocational education and work has been replaced by competency-based frameworks that emphasize high-level skills, which are ideally transferable across a broad range of occupational situations.

- In Ghana, education reformers, recognizing that university-educated Ghanaians were not necessarily gainfully employed after graduation, have decided to expand the country's technical and vocational education offerings. Part of this process is an emphasis on competency-based training. This means that education for career-oriented students is driven by demand, or built upon the competencies that employers confirm are needed from new employees.

- In this way, the transition between school and work is supported by both the education system and local businesses and industries that employ graduates. It also means that the knowledge and skills that students acquire in school are those needed by employers. The goal is both to reduce the transition time out of school and out of work, and to increase the status and salary of new employees after they leave school.

Suggested Reading

Ramirez, Luo, Schofer, and Meyer, "Student Achievement and National Economic Growth."

Wiseman and Alromi, *The Employability Imperative*.

Wiseman, Alromi, and Alshumrani, "Science Education Impacts on Labor Market and University Expectations of Students."

Questions to Consider

1. Does school prepare youth for transitioning to the job market and a career either before, after, or instead of college?

2. How can we understand the link between educational and labor market cultures around the world?

3. How do students around the world learn about work and make that transition as smoothly as possible?

4. Are schools training grounds for employment?

5. Are individuals' employable skills and attributes the foundation for collective socioeconomic benefits and well-being?

6. Do employable individuals possess understanding of work-related processes rather than work-specific skills alone?

7. Does individuals' academic performance improve when schools are made accountable to businesses and labor market communities?

8. Do school-work relationships, once institutionalized, persist, and are they maintained regardless of their actual technical output or original incentives?

Why Blame the Teacher?

Lecture 11

Reactions to poor performance on international student-achievement tests have routinely focused on reforming teachers as a way to improve national education systems. In this lecture, we will study various aspects of national efforts to improve teacher preparation, professional development, and teacher monitoring systems. We will also examine the elusiveness of teacher quality by examining how the lowest-scoring systems are reforming education through teachers—in particular, the endeavors of Saudi Arabia.

Teacher Quality Determined by Proxy

- Preparing and certifying the most highly qualified and competent teachers in mathematics and science have been elusive goals for most national education systems worldwide. Primary and secondary teachers are the focus of most of the debate and research, but there is also evidence that demonstrates the need for increasingly qualified instructors and subject matter expertise even at the university level.

- There is ample evidence suggesting that teacher quality is not necessarily tied to teacher preparation or certification. Unfortunately, teacher quality and preparation are difficult to adequately and consistently measure. On the other hand, it is quite easy to measure student performance using standardized tests. This means that teacher quality is often determined by proxy.

- Teacher certification is a better way of estimating what a teacher knows and can do. For example, in a report analyzing teacher certification requirements in approximately 60 different countries, researchers found that "a degree from a teacher education program and a pre-practicum during a teacher education program were the most commonly reported requirements" for certification.

- The next most commonly reported requirement for teacher certification, which included more than half the countries participating in the study, included a certification examination alongside completion of a supervised practicum and a probationary teaching period.

- It is important to note that teacher examinations alone are usually not enough for licensure or certification in most national education systems. In addition, since teaching is an applied profession, the teacher certification examination is typically partnered with a practical teaching experience, which is supervised and evaluated in addition to the teacher exam.

Saudi Arabia—An Instructive Case

- The elusiveness of assessing teacher quality in the Gulf states has reached crisis levels, which makes these education systems an instructive case to consider. Perhaps the most remarkable need in teacher preparation in the Gulf states is for a link between demonstrated competency in internationally accepted standards for teachers and real-world classroom implementation.

- Since 1981, six Gulf states have grouped together to form the Gulf Cooperation Council (GCC): Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates.

- Saudi Arabia lacks adequate mechanisms for connecting university-based teacher preparation programs and activities to school-based experiences and activities. As the largest Gulf state in both size and population, Saudi Arabia is an instructive case for comparison here.

- Based on descriptive data from the Trends in International Mathematics and Science Study (TIMSS), the average Saudi eighth-grade mathematics and science teacher is less than 40 years old. Saudi students with teachers 30–49 years old scored the highest in mathematics achievement.

- In science, students with teachers either under 25 or 30–49 years old scored the highest in science achievement, although students with science teachers 49 years or younger scored higher on average compared to those with teachers 50 or older. If the most effective teachers, as measured by student achievement, are among the newer or younger teachers, there is a potential drop in teacher quality among older teachers, even though the older teachers might be the most experienced.

Single-Sex Schools

- Other factors relevant to education in Saudi Arabia contribute to a wider contextual framework. For instance, gender is a significant contextual element of Saudi education culture and systems because of the social, cultural, and institutional phenomenon of single-sex education.

- While single-sex education in Saudi Arabia is the norm nationwide, and similar systems exist throughout the Gulf, it is worth noting that the gender-separated system is highly unique in terms of both its cultural and social roots as well as the education impact it has on both students and teachers.

- Interestingly, in Saudi Arabia, female students taught by female teachers consistently outperform male students taught by men in both mathematics and science. This may suggest that female Saudi teachers are more effective than male teachers, but the evidence also illustrates that science teachers seem to be more "effective" than mathematics teachers for both genders, if we measure effectiveness with student-achievement scores.

Out-of-Field Teaching

- Most eighth-grade math teachers in Saudi Arabia are trained with an emphasis on "mathematics" or "education mathematics"; however, students whose mathematics teachers' education emphasis was not mathematics scored significantly higher than those whose teachers studied "education mathematics" or "mathematics."

- Most Saudi students have science teachers who studied biology as a major or concentration during their training program. The TIMSS evidence shows that students whose science teachers emphasize biology scored the highest on the general science test, although there was little difference in average student achievement among all the science-related education training emphases.

- Out-of-field teaching among mathematics teachers in Saudi Arabia may actually be an advantage for mathematics students, whereas out-of-field teaching among science teachers is a measurable disadvantage. The interesting difference in the impact of out-of-field teaching for mathematics versus science can be assessed using information from teacher certification examinations.

Homework and Assessment Activities

- In the research, students and teachers agreed that teachers relate what they learn in mathematics to daily life and explain answers every or almost every lesson. But, it is explaining answers during half the lessons or more often that correlates most closely with high student achievement.

- Most science students and teachers report that they spend every or almost every lesson either giving explanations about what is being studied or relating what they are learning in science to their daily lives. Those students whose teachers reported they spend every or almost every lesson either relating science learning to their daily lives or giving explanations about what is being studied were the highest-scoring groups.

- According to student and teacher reports among participating TIMSS schools in Saudi Arabia, all science teachers and almost all mathematics teachers assign homework on a regular basis. More than half of science students say they review homework in class every or almost every lesson, while even more mathematics students say they review homework in mathematics class every or almost every lesson. This suggests that in mathematics and science classrooms, teachers are using homework as an in-class instructional tool.

- Students reporting that they spent every lesson reviewing homework in class scored significantly higher than their peers reporting that they spent every lesson having a quiz or test, or beginning their homework in class.

Link between Teacher Certification and Student Achievement

- Saudi teacher characteristics suggest that teacher certification in Saudi Arabia and the Gulf Cooperation Council more broadly could determine and monitor teacher quality by measuring a teacher's content area focus and expertise, determining the degree to which teachers link content to real-world problems and solutions, and evaluating how a teacher encourages critical thinking among students by implementing inquiry-based learning.

- With the exceptions of Qatar's math teachers and Dubai's science teachers, there is no other significant association between teacher certification status and student achievement in any of the individual Gulf countries. In fact, in large part, the association of teacher certification status with both math and science achievement across the Gulf education systems is either not statistically significant or weak.

- While teacher quality is emphasized as a key characteristic of high-functioning education systems worldwide, the evidence in the Gulf states shows that one of the key indicators of teacher quality (certification status) is not significantly associated with student performance indicators in most individual countries.

Predictors of Student Achievement

- Research has demonstrated that the strongest predictor of science achievement is per-pupil expenditure as a percent of gross national income (GNI)—however, it is a negative indicator. Lower-performing countries expend more resources per pupil than higher-performing countries. In other words, there is a disproportionate resource expenditure in developing or low-performing education systems.

- Gross national income per capita is also included as an estimate of the impact that socioeconomic development in a particular country might have on education achievement among students. The effect is quite small.

- The next strongest predictor of national average eighth-grade science score is the percent of teachers who are certified to teach science. For every 1 percentage point increase in certified science teachers, there is an increase in science achievement by almost 5 points. This is a significant and positive effect of teacher certification on science achievement, and suggests that the additional criteria and selection processes that accompany teacher certification worldwide support higher student achievement.

- However, the predictor of high relevance to certification status—teacher examination requirement—is not a significant predictor of eighth-grade science achievement. In other words, there is no significant impact on student science achievement associated with requiring teachers to pass an examination in order to become a certified teacher.

An Elusive Goal

- The extremely significant benefit of teacher certification, however, is that it establishes a culture of quality and preparation among teachers as well as a system for benchmarking performance for the initial certification and ongoing monitoring of teacher quality and performance in national education systems.

- In addition, the data from teacher certification examinations can be used by national education systems to understand their teacher workforce better as well as identify where there are needs for improvement or redistribution of resources to address gaps or enhance learning and teaching in local schools and communities.

- Teachers' qualifications and training are often not associated with their actual knowledge and behavior, particularly in disadvantaged communities or challenged education systems. The evidence that teacher certification status and student achievement do not consistently associate is clear: Simply passing a teacher certification exam is not a guarantee that your students will be high achievers.

- Often, teacher certification is more political in purpose than a true measure of teacher competency and effectiveness. And, until teacher certification processes themselves are rigorously and consistently evaluated in the education systems, the development and measurement of teacher quality will remain an elusive goal.

Suggested Reading

Wiseman and Al-Bakr, "The Elusiveness of Teacher Quality."

Wiseman and Anderson, eds., *Annual Review of Comparative and International Education 2014*.

Wiseman and Brown, "Does Teacher Preparation Really Matter?"

Questions to Consider

1. What makes the educational systems of some countries models that so many other countries aspire to become?

2. Is low student performance the fault of teachers?

3. What is the impact of teacher certification status on student achievement worldwide?

4. Can teacher certification status be used as a reliable measure or indicator of teacher quality around the world?

5. How is teacher quality related to teacher improvement or development?

Gender Pipeline Lifts Equality Dream

Lecture 12

Schools are extensions—and reflections—of our communities and ourselves. The problems that exist outside the school's walls come right into the classroom, because teachers and students live in that world—they do not just exist in an intellectual vacuum. If there is violence in the school, chances are that there are factors in the wider community that contribute to it. If educators are teaching out of their field or are less than expert, then they may live in a society that undervalues teacher professionalism or mocks learning as elitist. In this lecture, we explore the concept of gender equality in education, and how our treatment of boys and girls in school reflects the values of our society and culture.

Education in Context

- Finland has become a focus of international comparison because Finnish students scored at the top in a recent international assessment called the Program for International Student Assessment (PISA). PISA is one of the most highly recognized studies used to compare education systems worldwide. Many countries, including the United States, seek to recreate Finland's successes in their own schools.

- However, the United States is already implementing many of the practices that have demonstrated success in Finland. For example, we emphasize equality in our education policies, curricula, and pedagogy. We emphasize expertise for teachers and train them rigorously as experts in their fields.

- The reason why the United States is not experiencing the same results as Finland is simple: We do not have the same community, the same population, the same education vision, or the same context as Finland. Although the ideas and methods Finland uses are worth studying, our education system is a product of our own social, political, and economic context.

Gender Equity in Education

- Even if the United States cannot become Finland, we can try to further equity in specific groups of students classified by race, ethnicity, socioeconomic status, or gender. A way to level the playing field in education is to make adjustments that contribute to equity in our country's own unique ways.

- In spite of the well-documented gender inequality that both exists and persists in schools around the world, there is evidence that suggests progress toward gender parity in education is taking place—slowly but surely. Schools are the locus for much of the progress that is being made on behalf of girls and women in society at large. Some evidence suggests that formal schooling has helped gender egalitarianism become a legitimate part of a pervasive world culture.

- For example, the official policies and structures of formal schooling now largely avoid formal differentiation by gender. Only a few decades have passed since boys and girls were formally segregated in many state-sponsored school systems, as indicated either by enrollment in schools or by participation in specifically gendered courses, like home economics or industrial arts.

- While differences in schooling between boys and girls still exist worldwide, research suggests that girls' and women's education is strongly contextualized by the political, social, and economic environments of local schools and national education systems.

Gendered Curricula

- Gender egalitarian standards are increasingly becoming institutionalized components of formal political, social, and economic policies, as well. For example, women have the right to vote in most developed and many developing nations around the world; the civil liberties of women are recognized and even enforced in many nations, and women technically have the opportunity to hold the same positions as men in the labor market.

- The norm in many education systems around the world is no longer for boys to be officially assigned to more labor market–oriented classes, such as math, science, and industrial arts, and girls to more domestic life–oriented classes in history, language, and home economics. While some gendered curriculum divisions still do persist in certain school systems, they largely exist apart from the structure of formal schooling.

- Girls are now being encouraged to take (and are sometimes pushed into) advanced math and science courses—often beyond what they may individually want or collectively need. In fact, in several countries, the lingering gender differences in academic course participation and achievement in secondary school is tied more to attitudes and potential career than to actual opportunities to learn. This phenomenon has been termed the "gender pipeline" or "opportunity structure."

Schools are the locus for much of the progress that is being made on behalf of girls and women in society at large.

"Cloak of Equality"

- In the 21st century, the concept of gender equality pervades the education systems in every nation around the world—even in nations where gender equality has not been fully achieved in society.

- The question is: How does gender segregation still persist in education systems? One way this is possible is through the emphasis that is given to equality of activity versus equality of individuals.

- The rationale is that if girls can enroll and achieve at equitable levels in school, then it is not necessary for them to have access to exactly the same schooling. In part, this is due to the rationalization and consequent legitimization of inequality in some situations and subcultures. In other words, as long as overall progress is occurring, there is leeway in terms of specific inequalities.

- This situation can be termed the "cloak of equality." In this circumstance, certain conditions and structures that "look like" equality actually cover up, or "cloak," more deeply embedded inequalities. In fact, gender parity and egalitarian values may mask some institutionalized gender inequalities.

The "Gender Pipeline"

- The "opportunity structure," or "gender pipeline," has been used to examine the causes of gender differences in the formal education of both boys and girls as well as the academic performance of boys versus girls.

- The basic argument is that if students and their parents think that important future education and occupational opportunities are linked to either attending school or to high performance in school, their attendance at school and attempts to improve their school performance will intensify.

- For example, if boys are either told, shown, or simply understand that their future education and occupational opportunities are tied to their mathematics performance in school, they may try harder in class, teachers may encourage them more, and parents and peers may more consistently support their commitment to studying math.

- By the same token, if future education and occupational opportunities are perceived by students and their parents as favoring males, then female students faced with the prospects of lesser opportunities tied to their math achievement may think about and treat mathematics as less important for their future. Also, their teachers, parents, and friends are likely to reinforce these behaviors and beliefs linking students' school performance to their future adult status or job opportunities.

Gender-Related Socialization

- Research on "gender-related socialization" demonstrates how gender-related experiences of adult women in their families, jobs, and society clearly influence the experiences of younger generations. We can use this perspective to make sense of gender differences in mathematics performance and other opportunities for education.

- For example, there is clear evidence showing that gender differences in both higher education and labor market experiences impact students' school attendance and performance. There are also parallel associations between future opportunity structures and cross-national gender differences in parental encouragement to learn mathematics.

- What's more, evidence from around the world shows that what female students believe and how they engage in formal education is consistently tied to their perceptions about women's share of future education and occupational opportunities.

- There is also evidence that different combinations of perceived education and labor market opportunities work differently for certain groups of students. "For example, improving or publicizing equal access to opportunities that are most attractive to elite students, particularly in the realms of science and engineering that relate to higher education and upper-level government positions, can itself reduce gender achievement differences among advanced students."

- However, these effects do not apply to gender differences among lower-level students; for them, more general gender equality reflected in education overall has a more relevant opportunity effect.

Single-Sex Schooling

- The issue of single-sex schooling seems to be increasingly forgotten in national-level and global-level discussions about education. Several nations continue to maintain high levels of single-sex education in their school systems, which means that boys and girls attend separate education facilities, have different teachers, and sometimes even study under different administrative systems.

- Yet, many of the same countries whose national education systems are formally gender-segregated are proudly displaying enrollment and achievement statistics that show girls often matching or exceeding that of boys. The question, therefore, remains whether or not gender equality in education is really being achieved in gender-segregated systems.

- The reports on single-sex schools and gender differentiation in education are mixed. While some of the single-sex education research suggests that the effects on achievement and opportunity are strong, others working from these same data find weak effects. Still other evidence suggests that education systems themselves harbor institutionalized sexism that oppresses and inhibits girls' schooling and women's chances in wider society.

“Separate but Equal” Schooling

- As an example of institutionalized sexism, even though there are girls in Uganda who may be denied formal schooling because it is not considered gender-appropriate for them, as long as enrollment rates for girls relative to boys continues to improve overall, the local policymakers and international community will overlook the localized inequalities that do occur.

- In this way, “separate but equal” schooling exists around the world, which may be one of the strongest indicators of a “cloak of equality” that can be found across nations.

- Much of the legitimacy of an organization, community, or nation is the result of meeting internationally recognized standards for democratic nations. Having a well-informed and participatory citizenry, a strong civil society, and a government that guarantees state-society interactions are all internationally recognized democratic values.

- A key component of each of these democratic values is gender egalitarianism in society, the labor market, and government-sponsored institutions—like schools.

Suggested Reading

Baker and Wiseman, eds., *Gender, Equality, and Education from International and Comparative Perspectives*.

Stromquist, “Comparative and International Education.”

Wiseman, “A Culture of (In)Equality?”

Questions to Consider

1. How do we make a nationwide transformation by selecting elements of Finland's success and bringing them to the United States or elsewhere?

2. Should we emphasize equality in our educational policies, curricula, and pedagogy?

3. Should we emphasize expertise for teachers and train them rigorously as experts in their fields?

4. How does gender segregation persist in educational systems around the world that are supposedly steeped in a world culture of egalitarianism?

5. Is it possible to say that gender parity and egalitarian values about gender might be masking some institutionalized gender inequalities—especially in education?

6. Is there enough evidence that egalitarian values lead to widespread gender parity in different educational contexts—even though gender equality might not now (or ever) be firmly within our grasp?

Gulf Schools: The Non-National Advantage

Lecture 13

Education acts as a powerful agent of socialization as well as identity formation; it also serves as a means to distinguish between who "belongs" in a particular society and who does not. In this lecture, using the example of Saudi Arabia, we explore the concept of the "insider" versus the "outsider" in national education systems to determine the way education bridges political citizenship, academic performance, and economic productivity. By examining three defining issues related to education and the challenges of citizenship, we consider education as a means for producing citizens who reflect the desired image of national peoples and their governments.

Nationalization of the Labor Force

- In Saudi Arabia and other Arabian Gulf states, expatriates—or residents of foreign birth—typically far outnumber the national citizen population. This phenomenon gives us an opportunity to examine how Gulf states deal with nonnative students, as compared to other countries in the world.

- Several Gulf states are implementing policies and programs geared toward nationalization of the labor force. These labor-nationalization agendas emphasize the development of knowledge and skills among Gulf nationals—a process, it is argued, that will lead to higher employment for Gulf citizens in high-skill and high-salary positions, often in the private sector. The subplot of the policy is eventually to replace the expatriates who currently hold these high-skill and high-salary positions with predominantly Arab citizens.

- Saudi employers—like many others—complain that the national education system does not adequately prepare Saudi youth for labor-market participation, especially in high-knowledge, high-skill

private-sector jobs. Consequently, the percentage of non-nationals in the total labor force is high throughout the Gulf, led by Qatar at around 90 percent, to Saudi Arabia at around 50 percent.

- As the level of non-nationals in Gulf labor markets rises, labor-nationalization policies and public discussions intensify. But there is relatively little empirical research that investigates Saudi or Gulf nationals' potential to productively participate in the labor market. The question for Gulf educators and policymakers, then, is whether citizenship status is a significant predictor of youths' participation in higher education or productivity in the labor market.

Student Achievement by Parental Origin

- Student achievement in Saudi Arabia and elsewhere around the world can be characterized and ranked according to parental origin. Interestingly, the results in Saudi Arabia are almost precisely opposite those in the rest of the world. In Saudi Arabia, student achievement—by parental origin—comes in the following order, from highest to lowest:
  1. Two non-national parents
  2. Two national parents
  3. One non-national parent
- Everywhere else—on average—student achievement, according to parental origin, is, from highest to lowest:
  1. Two national parents
  2. One non-national parent
  3. Two non-national parents
- Socioeconomic status also plays a role in how well students do. For example, while Gulf students' achievement scores are positively associated with parents' education levels, higher-achieving students are more likely to have non-national parents.

- We also consider the context of education based on whether a school is composed predominantly of foreign or national students. In particular, Saudi non-national students performed at significantly higher levels within non–national majority schools than within national-majority schools. In other words, expatriates did better when surrounded by expatriates.

Intensified Isomorphic Mass Schooling

- A long-recognized key element in the creation of stable nation-states has been the state's ability to socialize youth into the role of citizen. Previous analyses of the origins of mass schooling have recognized the association between government-sponsored education and nation-states' agendas for producing citizens.

- In fact, this association is assumed by a variety of political interests both inside and outside the government and has been emphasized as an effective means to bring about social order within a national polity.

- Emphasis on the association between education and the political socialization of citizenry has become widespread across nations, leading some scholars to hypothesize that political socialization is becoming more of a global than a national phenomenon, through increased commonality in international education goals and standards, termed "intensified isomorphic mass schooling."

Schools—Tools for Nation Building

- As tools of national political and economic development, schools are also politically constructed institutions, and as such have been used for nation building. Beginning as early as the 15th century, the modern political institution of the nation-state has grown in number and type, and both formal schooling and informal education have fundamentally contributed to this development.

- Early on, political leaders discovered the significance of schools and organized mass schooling for the creation of a loyal and productive citizenry. Since this discovery, there has been no

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Early on, political leaders discovered the significance of schools and organized mass schooling for the creation of a loyal and productive citizenry.

turning back, and this is why mass schooling is an explicit project of nations and why schools are key components in the political socialization of youth.

- The significance of schools in producing good citizens is one of the reasons why responsibility for education is provided in most or all nations' constitutions, especially those nations who developed or re-developed during the 20th century.

- In the next three sections, we will examine three defining issues related to developing education and the challenges of citizenship.

Issue 1: The Robustness of Formal Education as a Socialization Agent

- There are two contrasting perspectives about how schools create citizens. The first perspective—civics education—assumes that schooling has a considerable, although formal and narrow, impact on citizen development. This perspective assumes that citizenship is mainly formed through direct instruction using a civics-education curriculum specifically developed for this purpose.

- Civics education has many forms, but it has shifted and in some ways softened in many countries around the world. One country that still has a strong civics education system is China, where it is called "moral education" and sometimes translated as character education or value education.

- The second broad perspective—political socialization—is a product of the intense anxiety felt by millions around the world during the mid-20th century in response to the Cold War and the constant threat of international instability. Compared to civics education, the political-socialization perspective has dominated the study of citizenship formation since the end of the 1950s.

- The political-socialization perspective maintains that citizenship development is the result of many diverse influences, such as family, peer groups, and the mass media, on youth's civic values, attitudes, and knowledge. Although the school is listed among these, it is not a major influence.

- Today, however, there is broader recognition that formal mass education provides the structure and the opportunity for the political socialization of youth to occur around the world. For example, some political scientists, returning to early ideas about civics education, hypothesize that the direct effect of civics education and other political- or civics-oriented curricula and courses in schools is the dominant method of political socialization.

- Other experts note that political socialization through schooling is the product of participation in activities that generate knowledge about the political process and awareness of the importance of political participation. What's more, people who have attained higher levels of education tend to be more involved citizens, have similar attitudes about social justice and human rights even across nations, and more frequently exercise their political rights and responsibilities within their own nations.

Issue 2: National versus Global Citizenship Formation

- The older version of the civics-education perspective assumed that schools of a particular nation trained youth in a curriculum that mirrored the politics of that nation. What we might call the "nationalism effect" is simply that youths' socialization reflects the salient political contexts of their nations. Some empirical studies suggest that political socialization of youth is largely influenced by specific political characteristics of nations.

- In contrast to the nationalism effect is a well-known set of education studies showing how nations operate schools under a considerable amount of external global pressure, and how this influences the content of schooling right down to the curriculum presented in classrooms.

- Mary Rauner, in her doctoral dissertation at Stanford University, conducted one of the most influential studies on the effect of schooling on political socialization. She looked at cross-national historical trends from 1955 to 1995 in civics curricula, and found clear evidence of a shift away from more particular national civics material (i.e., durable national cultures, political national traditions, founding myths, and social characters of particular nations) in national education systems worldwide to material that presents citizenship to students as a global and universal process.

- According to Rauner, the image of the nation in the newer curricula deemphasized unique historical images and replaced them with content about democracy, social justice, inclusion, and generalized citizen rights and responsibilities that are all part of an emerging ideology of individual civil, political, social, and economic rights across the global community.

- Moreover, some recent cross-national studies report global trends in democratic attitudes among youth, the ways that political ideas are transmitted among adults and youths, the impact of education on democratization processes, and adolescents' civic commitments across nations.

Issue 3: Citizenship Education beyond Human-Capital Investment

- One of the main motivations behind the long-term spread of formal schooling within and across nations was, and still is, the interest in socializing not only productive members for the economy but also citizens for the nation. For example, history has demonstrated that national reactions to political, military, and economic crises often resulted in mobilizing state resources for mass education as a strategic plan to make better citizen-soldiers in addition to productive workers.

- We do know that when people make individual decisions, they do so in reference to other people's similar experiences, situations, and obligations. Therefore, because schools are the main context for young people, their contextualized experiences within schools drive the political socialization of youth.

- Schools and the teachers in them also implement curricular content that affects the civic development of youth at the local level in the United States and similarly decentralized school systems. However, most policy or curricular decisions in more centralized countries like France or Japan are made at the national level.

- In conclusion, the impact of formal mass schooling around the world is that political socialization into local and national communities is now increasingly normal. The result is that students increasingly claim the rights (and responsibilities) of global citizens rather than citizens of specific or limited communities.

Suggested Reading

Gutmann, *Democratic Education*.

Torney-Purta, Schwille, and Amadeo, eds., *Civic Education across Countries*.

Questions to Consider

1. How did you learn who you are as a citizen of a particular country or community? Did you learn who you are and what your civic identity is through a combination of experiences and education?

2. What is the good of all of the advances girls have made relative to boys in their educational system if it is difficult to translate these achievements to benefits and applications outside of schools in the labor market, in the government, or in society?

3. Has the global spread of schooling fundamentally changed the function of schooling as a tool of nation-specific political socialization and citizenship production?

4. What are the effects of schooling on youth political socialization across nations?

Who Is Accountable for Education?

Lecture 14

While the culture of accountability varies from country to country, and from region to region, certain connected elements of accountability culture appear in most education systems: access, achievement, and the combination of standards and assessment. In this lecture, we will examine these three elements of accountability culture and consider examples drawn from the United States, Japan, and Finland.

Clash between Community and Accountability Culture

- Consider this case history: A principal of a high school in a rural, low-income area in New Mexico considered himself a member of the local community—a predominantly Navajo and Hispanic area—and was sympathetic to the issues and concerns of its various groups.

- The problem arose during a chilly morning one November. A teacher asked a group of boys to empty their pockets when they came onto school property and found the usual cigarettes and lighters. But when one boy emptied his pocket, out came a short hunting knife. While it was only about four inches long, the knife was considered a weapon—and the school had a strict zero-tolerance policy for weapons on school property.

- Contrary to school policy, however, the principal did not expel the boy. The principal maintained that the school was located in a hunting community, and that carrying a small hunting knife was not a serious threat in that environment. At the next school board meeting, the issue of the knife and the decision to suspend rather than expel the student came up. In the end, the principal was fired for contradicting the school's zero-tolerance policy on weapons.

- There are several layers of accountability in this story. The principal was accountable to his teachers, his students, the parents

and community, and the school board. Although he made a decision that he thought was appropriate and accountable to each, it ended up badly for him.

- This is an example of a clash between the local community and school accountability cultures, and it is not unique. Many communities around the United States and around the world experience similar conflicts.

Japan—A Consensus Culture

- In Japan, the accountability culture is as much a part of society as it is a part of school. Japan is a consensus culture, meaning that there is more emphasis on working within a group than on developing and asserting one's own individuality. This consensus culture manifests itself in schools, as well.

- In Japan, as students move into secondary school (junior high school), they are organized into small classroom groups called *han*. The *han* work together on some of their academic assignments, but the *han* primarily serve as a way to distribute responsibility—or accountability—among the students for the functions of the classroom.

- The desks of the classroom are arranged in a way that shows the makeup of the *han* and that illustrates who is responsible, or accountable, for each small group. For example, if there are five students in a *han*, four of the students' desks are arranged face-to-face, and the fifth desk is placed at the end looking across the other four. This fifth desk is where the *han* leader sits.

- Consensus culture has embedded itself in the Japanese schooling model; the accountability of Japanese students and teachers is to their group and group leader first—and then to other stakeholders. In many ways, this is a much clearer accountability system, because it is obvious to whom individuals are accountable within school and beyond.

Access

- Most people around the world have access to formal education, and education has come to be considered a human right. Article 26 of the Universal Declaration of Human Rights, adopted by the United Nations, notes, "Everyone has the right to education. Education shall be free, at least in the elementary and fundamental stages."

- What this means for accountability is that everyone is also a stakeholder. We see this in the expectation that parents become involved in their children's education and in the expectation that teachers sometimes assume responsibilities traditionally assumed by parents.

- We also witness this in the fact that teachers and classrooms are people and places that families and others in the community can easily access. We even see this in the development of individualized education programs for students who might have different needs due to physical, cognitive, social, or emotional circumstances.

- In other words, access and public penetration into education are a key factor in education's accountability culture.

Achievement

- There is an assumed linear relationship between education and student achievement. That is, if a teacher or a school is providing a quality education, then students will score well on tests and maintain good grades. Likewise, there is an expectation that if students are not scoring at the top of the performance range, then there must be something wrong with the education system.

- In short, the assumption is that school factors cause student achievement. If schools are improved, then achievement is improved.

- The fact is, however, that school and nonschool factors interact to influence student learning and achievement. Therefore, the relationship between schools and the education students receive there is not a linear one.

Combination of Standards and Assessment

- The third element of accountability culture is a combination of standards and assessment. In order for someone or something to be held accountable, there needs to be a standard, and a means to assess whether a student, teacher, principal, and school meets that standard. In countries where education is deemed to be failing, standards are often the first targets of education reform.

- The combination of standards and assessment is usually embodied by a nation's education curriculum. Yet the ways that each country's education system implements this accountability culture—through standards, curricula, and assessment—differs. In the following example, we contrast Finland's accountability culture with that of the United States.

Accountability Culture in Finland

- Pasi Sahlberg, who has served in the Finnish Ministry of Education and Culture, points out three distinct elements of the Finnish curriculum.

- First, every district in Finland develops its own curriculum. Since schools are often given the responsibility for developing curriculum by the districts, Sahlberg points out that across Finland, it is really the schools that develop their own curriculum—as long as it meets the general national requirements, including foreign languages, special education, and student welfare.

- Second, Finland has national curriculum frameworks that help align the school curricula. National curriculum frameworks in Finland serve to describe general objectives and core content, with requirements for certain subjects and general time allocations. The goal is that education will be provided eq`ually to students across Finland as long as these subjects are allocated generally equal time in the classroom.

- Third, Finnish teachers are empowered to design the national curriculum frameworks as well as the district-level or school-level standards. In fact, working groups of teachers are brought together to update the curriculum when it is needed, and then teachers field-test and evaluate new curricula. Teachers in Finland also enjoy freedom from standardized tests.

Common Core Standards

- As an example of the accountability culture in the United States, consider the recent development of Common Core standards. The goal of Common Core was to raise student achievement across the United States by standardizing the curriculum taught in schools in every state.

- Common Core standards were not developed at the school level, or by teachers at the schools themselves. Instead, the standards were the product of a collaborative effort of state governors and state education departments or commissions, which included representation of teachers by national teacher unions and representative working groups of teachers.

- On the subject of assessment, much resistance to the Common Core in the United States is a result of a backlash against what many perceive as the increasing institutionalization of standardized testing in American education. In other words, the resistance is not always to the standards themselves so much as it is to the fact that assessment always follows standards. In this case, standardized testing follows the Common Core.

- The Common Core system is in stark contrast to the Finnish system, where standardized testing is not done. In Finland, education standards are so specific to individual schools and districts that it would be impossible to adequately assess students with a standardized test.

Much resistance to the Common Core in the United States is a result of a backlash against what many perceive as the increasing institutionalization of standardized testing in American education.

Education Equity

- Education equity is the motivation behind both the U.S. and Finnish systems. In Finland, the idea of equity is to provide the same subjects for the same time for all students in each grade, even though the exact standards and methods for teaching and learning the content of these subjects will vary from school to school.

- By contrast, in the United States, the fundamental idea is that to achieve equity, the standards, curriculum, and the assessment of students must all be the same. As a result, the subjects have to be the same, regardless of significant differences in context in different schools, districts, and states.

- This brings us back to a central argument of this course—that the alignment of school and nonschool factors in each education system allows good things to happen. Clearly, the idea of how that alignment should occur differs between the United States and Finland.

- In Finland, the idea is that nonschool factors and context take precedence over school factors like standards and curriculum, whereas the United States takes the opposite view—that school factors are assumed to take precedence over nonschool factors and context.

- Regardless of the reason for the differences between the United States and Finland, however, we can see that the elements of access, achievement, and a combination of standards and assessment make up the core elements of an accountability culture in both the United States and Finland. It is the unique combination of these elements that leads to different systems in each country.

Suggested Reading

Darling-Hammond, *The Right to Learn*.

Wiseman, ed., *Educational Leadership*.

Questions to Consider

1. Why is it that regardless of which country's educational system we examine, accountability culture for academics seems to often come back to individual student and teacher performance?

2. Why does the intersection of accountability cultures related to the academic side of schooling and the more cultural side of schooling sometimes cause conflict?

3. How are schools, teachers, and students held accountable for education worldwide?

How Parents Shape Student Outcomes

Lecture 15

Parents have a tremendous effect and influence on the education of their children. Even though there are different approaches to parental involvement, the output is typically a product of the same equation: The more involved parents are, the better their students perform both in school and outside the classroom. In this lecture, we'll examine the phenomenon of "shadow education," how student literacy is influenced by the parents' socioeconomic status, definitions of "formal literacy" and "informal literacy," the PIRLS report findings, and an analysis of parental involvement in education in both Japan and Saudi Arabia.

"Shadow Education"

- Parental involvement frequently aligns with a family's socioeconomic status (SES). At the upper end of the socioeconomic range, parents act more like their children's "education managers." Private tutoring is one way that parents involve themselves in school without really being at the school building, or even having interaction with teachers.

- At the other end of the parental involvement range—where there are many nonnative English speakers, and families on the lower end of the socioeconomic spectrum—parents tend to be less involved in their children's academics, and more uncomfortable in the school environment.

- The supplementary education phenomenon, or "shadow education," tends to occur in two contexts: high-stakes situations and low-quality education systems.

- In high-stakes situations, where the transition from school to work is based on academic performance, then parents more frequently use "shadow education" as a supplement. In low-quality education

systems, parents with the economic and social means will supplement their children's education through private tutoring or some other sort of "shadow education."

- Several high-stakes education systems, such as those in Japan, South Korea, and other East Asian nations, are known for having widespread "cram school" systems. These cram schools are privately run but mirror what goes on during the regular school day in public schools—except that the curriculum in cram schools is often more rigorous.

Influence of Socioeconomic Status

- A great deal of education research demonstrates that student literacy is influenced more by the parents' socioeconomic status than any other factor. To examine that influence, we will look at how parents' behavior, and activities with their children, lay the foundation for additional learning.

- Research suggests that when curriculum is standardized within nations, parents from lower SES backgrounds are more likely to become involved in their children's school and in managing their child's education.

- Parental involvement in the early years has long-term influences on a child's literacy development and future academic success. Having books in the home, parents reading with their children, and teaching reading and writing in the home forms the building blocks to vocabulary development, phonemic awareness, and fluent reading.

"Informal Literacy" and "Formal Literacy"

- "Informal literacy" captures the exposure to printed material when parents read to their children and discuss the meaning of the story or meaning of words. "Formal literacy" includes reading and teaching the print in the book and discussing letter recognition and letter sounds.

- A recent longitudinal study of parental involvement and literacy found that "informal literacy" predicted vocabulary and listening comprehension skills. "Formal literacy," as encouraged by parental involvement, was linked to early literacy skills.

- When teachers and parents work together to provide a rich literacy environment, children, teachers, and parents are more interested and engaged in reading. What's more, enjoyment of reading is an important component of student success and an area overlooked by current research on parental involvement.

- There is also the indirect influence of parental involvement on children's interest in reading, and the importance of focusing on language acquisition and parental involvement as a way to reduce the language skills gap (achievement).

Parental Influence in the Home and School

- In the home, parental involvement includes provision of a home learning environment, parental aspirations, parent-child interactions, and regulation of a child's schedule.

- In the school, there are two main forms of parental involvement: (1) interactions between school personnel and parents, including parent participation in school events, and (2) the school environment. School-based involvement includes attending parent-teacher organization (PTO) meetings, school events, and parent-teacher meetings.

- In addition to the home and school, parents also engage in bridging activities that support their children's academic life, including connecting with other parents, neighbors, school personnel, and work colleagues.

- Studies suggest that family background characteristics influence the way parents are involved in their children's schooling. Wealthier parents engage to a greater degree in both parental involvement

activities in the home and school. Students from lower-SES families gained less from parent-child discussions than children from higher-SES families.

- It is clear that when parents communicate with their children, it influences their academic trajectory. Parent-child interactions in the early years have long-term effects for literacy and schooling outcomes. A recent study of 14 countries, in the Program for International Student Assessment (PISA), focused on home-based parent-child communication as an indicator of frequency of parental engagement and reading literacy.

Parent-child interactions in the early years have long-term effects for literacy and schooling outcomes for the child.

PIRLS Report

- In the parental involvement literature, there is little discussion of preschool attendance as a form of parental involvement. However, there are many studies that focus on the importance of early childhood education and the significant role parents play in developing a child's literacy and learning skills.

- The Progress in International Reading Literacy Study (PIRLS) 2006 report, published by the International Association for the Evaluation of Educational Achievement, indicates that there is a positive relationship between the year of preschool attendance and reading achievement in the fourth grade. Also, researchers found that preschool attendance was positively related to school performance.

- Parent-school partnerships at the preschool level seem to be a critical entry point for parents offering education support at home for their children. A study of parental reading socialization, reading by example, reading aloud and discussing books, and parental school involvement found a positive relationship of parental reading socialization and school-related involvement on language performance at the start of primary school.

- Researchers found that parental involvement, but not parental reading socialization, was beneficial for arithmetic success. They also found that, for all children, reading socialization and parental school involvement are important for language skill acquisition and that those from advantaged households begin primary school with higher language skills. This calls for a need to focus on reducing the language acquisition gap between advantaged and disadvantaged households.

Japan

- Japanese high schools are particularly active and involved in helping workforce-bound students enter the labor force directly upon high school graduation. Academic researcher Kaori Okano asserts that one reason non–college bound Japanese students often continue through high school is that their schools will share or even

assume the responsibility of finding them suitable employment. What's more, academic researchers Toshiji Kanaya and Mari Sako argue that Japan's education system caters to employers with a preference for employees who can retrain themselves and who know how to learn.

- Japanese employers often maintain tightly coupled relationships with individual schools and faculty through semiformal contracts. Because Japanese companies often recruit students with reputations for high achievement, grade reports and the recommendations of teachers can influence a company's decision to hire.

- A Japanese family's background and involvement can encourage or even accelerate students' achievement during schooling, which may then lead to good teacher recommendations or other positive consequences of academic success for future employment. Thus, Japanese families become instruments for successfully incorporating culture into the institutional linkage between schooling and employment that otherwise might contribute to "cultural discontinuity."

- The influence of family on students also can ensure that students are acculturated early in their academic careers so that Japanese social values and customs permeate students' lives even though their institutional experiences may include exposure to or adoption of Western models of and rationales for schooling. In other words, Japanese families encourage and enable the transition to work through their support of students' academic pursuits, but they maintain the cultural mores and traditions of Japanese society through early enculturation efforts.

- An admired aspect of Japanese schooling among Western observers is the flow between and cooperation among schools and employers. In the United States in particular, the Commission on the Skills of the American Workforce reports that Japanese schools and workplaces act as virtual families between which students seamlessly transition with little or no external assistance.

Saudi Arabia

- By contrast, consider the example of the influence of family on the Saudi Arabian system of education. Academic researchers Abdul Ghafour Al Heeti and Colin Brock point out the frequent lack of appropriate institutional guidance both in school and between school and work in Arab school systems. Therefore, many parents in Saudi Arabia must assume the guidance responsibility taken, instead, by the school institution in other countries like Japan.

- While the Japanese family is strongly tied to the school, this is not the case in Saudi Arabia. Saudi parents' management efforts on behalf of their children are borne less out of support for the institutional relationships between schools and employers than they are from a need to socially introduce their children to the world of work and life management.

- Saudi educators, policymakers, economists, and business leaders suggest that offering a comprehensive curriculum is one way to ensure that all students obtain training in basic academic and labor market skills, especially since Saudi enrollment in vocational education is rapidly declining.

- There is no institutional link between schools and employers in Saudi Arabia. Instead, the effort to link schooling with employment is influenced by Saudi Arabia's uniquely prosperous economic condition and Islamic cultural mores, such as those dictating family relationships.

- Although Saudis often consciously reject Western influences, the nature of Saudi schooling suggests the predominance of Western human-capital rationale in education investment and implementation decisions among Saudi students and families in accordance with Saudi culture rather than against it.

Suggested Reading

Baker, Akiba, LeTendre, and Wiseman, "Worldwide Shadow Education."

Kong, "'To Walk Out.'"

Sargent, Kong, and Zhang, "Home Environment and Educational Transitions on the Path to College."

Questions to Consider

1. How do parents influence education worldwide?

2. How does parental involvement vary by country, culture, and educational system?

3. What is shadow or supplementary education, and how does it impact both teaching and learning worldwide?

4. How does the type of educational system influence the degree to which parents can and do get involved in their children's education?

5. What impact do parents have on literacy?

6. How do parents influence students' transition from school to work?

Reading, Writing, and Religion

Lecture 16

In this lecture, we will examine how educators and students in different systems around the world decide what to teach and learn, and explore how that curriculum decision is a product of context. Students all over the world learn much of the same content matter and cognitive skills; for example, language, math, and science are universal. In some countries, however, specialized curricula reflect unique social, political, or ideological characteristics. We will also study the phenomenon of the "hidden curriculum," which transmits dominant norms, values, and beliefs implicitly, and consider the promise of interdisciplinary education and the uses of comparative education data.

"Hidden Curriculum"

- Although curriculum is academic by definition, since students are learning the content as knowledge, curriculum is also a component of socialization. Examples of the curricula of socialization are the religious content in curriculum in Saudi Arabia, and moral education in China. While these subjects do have an academic component, religious and moral education curricula are more about teaching students about their own society and how to be a good member of that society. That is, the content of the curriculum is meant to help socialize students into the broader community.

- There is a socialization aspect to what is taught and learned in most education systems. Being a part of the formal education system as a student socializes young people into commonly accepted ways to interact with one another; organize into hierarchical social groups; and share certain norms, values, and beliefs within a community.

- This phenomenon is sometimes called the "hidden curriculum" because it is not necessarily an overt or explicit part of the curriculum—even though the social outcomes of what is taught and

learned are very real. Some experts are critical of the socialization aspect of curriculum because they argue that the curriculum tends to benefit those who wield economic, political, or social power.

Paulo Freire and John Dewey

- Paulo Freire, a Brazilian educator and education critic, was one of the key leaders of the movement during the 20th century to use education to liberate communities and peoples that were oppressed. His book *Pedagogy of the Oppressed* outlines the so-called banking concept of education. In this concept, Freire argued, education served to reproduce patterns of dominance and power in the larger society by treating students as passive receptors of "deposits" prescribed and delivered by teachers.

- Freire observed that, according to this "banking concept" of education, "Knowledge is a gift bestowed by those who consider themselves knowledgeable upon those whom they consider to know nothing." In this way, according to Freire, the teacher knows everything and the students know nothing; the teacher chooses and enforces his or her choice, and the students comply.

- Freire's theory is in stark contrast to that of the American philosopher and educator John Dewey, proposed at the beginning of the 20th century. Dewey observed that there was a significant gap between a child-centered curriculum and a subject-centered curriculum.

- In the subject-centered curriculum, education is seen as a form of preparation for some aspects of future life. Dewey, however, suggested that a curriculum should be based on children's immediate experiences and their own activities.

The Curriculum: Intended, Implemented, Received, and Enacted

- Every curriculum is a process that moves in stages: First, it is intended by policymakers; then, it is implemented by teachers; and finally, it is received and enacted by students. Importantly, the enacted version of the curriculum may be completely different from the intended version.

- In most countries, the official or intended curriculum is developed by teams of curriculum specialists and subject-matter experts. This intended curriculum is then implemented or delivered by teachers in classrooms. How closely teachers adhere to the textbook (i.e., the intended curriculum) depends on how strictly they are monitored or how the students are tested on the precise intended curriculum.

- In the United States, how teachers implement the curriculum depends on how teachers and students are assessed in each district or state. For example, in states that assess students on Common Core standards, teachers may adhere closely to the official curriculum as represented by the textbook in order to help their students excel on their standardized tests. In states where Common Core standards are not assessed, there may be a looser fit between the official curriculum and what teachers actually teach.

- At the received and enacted level of the curriculum, students are responsible for deciding what is learned. They may not make overt or even conscious decisions about what they learn, but if the content teachers teach them is not interesting or relevant to their lives or expectations, or if they know they will not be formally assessed on what they learn, then students may not absorb all of what the teachers teach.

- In addition, if certain content is not included as part of the official curriculum, then it is rare that teachers will ever teach it, and students will probably never have a chance to learn it—at least not in school.

A Prohibitive Organizational Context

- Deciding what to teach and learn is about more than just teaching content in particular subjects, however; it is also about deciding how to integrate subjects. This is sometimes called interdisciplinary education, and it is becoming more common after nearly a century of being pushed aside. Following is a case study of a (failed) attempt at interdisciplinary education.

- An English teacher in New Mexico teaching the Shakespeare play *Macbeth* to 11th-graders decided to collaborate with the shop teacher and combine classes. The English teacher would focus on the English literature side, and the shop teacher would guide the students on designing and constructing a small replica of the Globe Theatre.

- If the teachers were successful, it would be the first such interdisciplinary class project attempted at that high school. But, after a few weeks and then a few months, it became evident to both teachers that the idea to collaborate on this interdisciplinary project was not going to work. The attempt did not fail because the teachers were not both motivated—they were; the project failed because the teachers did not have enough support and infrastructure to teach interdisciplinary courses.

- In other words, in this case, deciding what to teach and learn was limited by what the teachers could accomplish in their prescribed schedules, with limited or no budget, and without a way to officially assess the project in accordance with the state curriculum standards at the time.

- This was a difficult disappointment for the teachers—and a stark reminder that the organizational or internal education context can be just as prohibitive and limiting as the external or community context.

The Promise of Interdisciplinary Education

- Deciding what to teach and learn also depends on who makes the decisions. In highly centralized education systems, decisions about what curriculum to teach resides at the central administration, whereas in more decentralized systems, the decisions about what to teach and learn are allotted to schools and teachers.

- In the United States, the Common Core standards system creates a shared or centralized curriculum for students. But in reality, every state has its own version of curriculum standards, and each school district has its own version of curriculum to address and meet those standards.

- Another highly decentralized education system, in Finland, provides a great deal of freedom in deciding what to teach and learn. While Finland has national guidelines for curriculum, teachers decide the standards for what they teach and how they teach to those standards.

- Finnish teachers also have the freedom to use unorthodox methods of teaching if they think it will be more interesting or effective. For example, as reported in *The Guardian*, in one course, Finnish teachers took their students outside for what they called "wood mathematics." In this class, teachers accompanied their students to nearby forests and taught them to do math by counting twigs or stones.

- What's more, Finnish teachers are much more likely to engage in interdisciplinary education than teachers in other countries. As an example, in one class, students who were nonnative speakers learned to identify and name the parts of a mouse in Finnish and illustrated on a map where mice were found in Finland—combining literacy, biology, and geography all in one.

Finnish teachers have the freedom to use unorthodox methods, such as going outside for "wood mathematics"—learning how to do math by counting twigs or stones.

- In contrast, the French education system is one of the most centralized systems in the world. It has been said that if you know what day and hour it is, you will know what every student in France is learning—because it is all so prescribed and uniform across the country. While the French motivation may be democratic, the realization of that motivation may not be.

Uses of Comparative Education Data

- Even though a country or locality may have an official curriculum, what happens between teachers and students is what makes the difference. At the individual level, teachers have to weigh what they are required to teach against what students need or are ready to learn.

- This is where comparative education data can be useful. If teachers have assessment data for their students, then they know what their students supposedly know, and can see where they are strong and where they are weak.

- Say that an eighth-grade math teacher in Taiwan had access to Trends in International Mathematics and Science Study (TIMSS) data, which assesses students' math and science achievement around the world.

- Some of the latest TIMSS data demonstrate that Taiwanese eighth-graders scored around 600 on the mathematics portion; the data also show that Taiwanese students were tested on the following content domains: numbers, algebra, geometry, and data/chance. The eighth-grade students scored significantly below 600 on the numbers and data/chance portions of the math test, but they scored about the same as the average or significantly higher on the geometry and algebra portions of the test.

- Using this data, it is easy for the teacher to decide to teach numbers and data/chance more than geometry and algebra. In other words, even though all four content areas are part of the formal curriculum, the teacher could use the TIMSS data to decide to emphasize the two content areas where students needed the most help.

Suggested Reading

Astiz, Wiseman, and Baker, "Slouching towards Decentralization."

Stambach, *Faith in Schools*.

Wiseman and Brown, "Teacher Curricular Control and Student Performance."

Questions to Consider

1. How do teachers decide what to teach?

2. What should be in every curriculum around the world?

3. What is the difference between the intended, implemented, received, and enacted curriculum?

4. What is the "hidden curriculum"?

5. How can learning be interdisciplinary, and what is the advantage of interdisciplinary learning worldwide?

6. What role does data or evidence play in deciding what to teach?

International Test Scores: All and Nothing

Lecture 17

Participation in international assessments of student achievement is not simply about determining what students know and can do. Participation in these assessments has a political and economic purpose that provides legitimacy—not only to education systems but also to nations. This lecture provides a framework for finding what works to improve student achievement on standardized tests in countries worldwide, based on international comparisons and evidence-based decision making. To determine what works, we will use our understanding of how the world learns.

Education—Not an Isolated Enterprise

- The issue most frequently identified in education systems worldwide is that of low-performing (or underperforming) students. To determine what works to improve student achievement, we need to find a balance between reforming school factors and nonschool factors.

- In a recent cycle of the Trends in International Mathematics and Science Study (TIMSS), about 70 countries and benchmarking communities participated, with more planning to participate in the future. The TIMSS assessment represented countries from all regions of the world, at all levels of economic development, operating within all types of political systems, and engaged in every variation of education quality and organization.

- Most of the public discussion about TIMSS centers on students' average math and science scores by country. This takes the form of country rankings, providing us with information about which country's students did the best in math or science, on average.

- While there certainly are problems with the education system in the lower-performing countries, context has just as much to

do with the teaching, learning, and performance of students on these international assessments as does the content of education. Education is never an isolated enterprise.

Misleading Rankings

- It is important to note that the rankings of TIMSS, or any other international assessments, are extremely misleading, because the data for each country that participates are sample data—meaning that a group of participating students is randomly drawn from schools in each participating country to take the test and answer the questionnaire.

- Because these tests do not compile data for all students, we have to use statistics to estimate the average student achievement. And, when we calculate the chances that one country's scores are different from another's, we end up with three groups. One small group comprises consistently high achievers, like Taiwan, Singapore, Japan, and South Korea. Another small group comprises consistently low achievers, such as Ghana, Qatar, Botswana, El Salvador, and Saudi Arabia.

- The largest group of countries is in the middle. In other words, most countries participating in TIMSS are average, and it is statistically impossible to determine whether they are really any higher or lower than any of the others in the middle. The United States appears consistently in the middle group, even though the relative ranking of the United States has slowly climbed upward over the years.

Differences in Context and Culture

- As far as education systems go, the formal policies for high-achieving and low-achieving countries are not so very different. All countries have a focus on equitable access and opportunity to learn; all have a focus on recruiting and training quality teachers; and all have a focus on providing the best and most up-to-date curricula for students to learn and teachers to teach.

- The differences comes from context and culture, and so it is factors outside of schooling that make the real differences in how well students learn and perform and how effectively teachers teach.

- The most useful way to compare student performance worldwide is to determine what is shared among the school and nonschool factors, and then to take careful note about which contextual factors both in and out of schools influence how education is intended, implemented, received, and enacted by the students. From different contexts come significantly different outcomes.

Negative Aspects of International Testing

- Instead of using international education assessments and surveys to rank countries based on average student performance, we should use the data to support evidence-based decision making within each country or community context.

- Many have expressed criticisms and misconceptions about the development, administration, analysis, and interpretation of international tests.
    - First, some have criticized international testing for its tendency to aggregate, and therefore mask, individual or regional-level variation, which has sometimes been referred to as "reductionism."

    - Second, some see international testing as a tool used by communities, organizations, and individuals with a strong power base to override the interests of the marginalized or disadvantaged or to merely push through the agendas of large, transnational organizations without regard for local, regional, or otherwise contextualized concerns.

    - Third, others are skeptical of international testing because of the inherent problems in sampling, coverage, administration, and interpretation of such large-scale data.

The ability to participate in an international community of education systems is a significant advantage to international assessments like TIMSS and others.

- The danger exists, however, of throwing away relevant and needed information coming from international studies rather than constructively training researchers and policymakers how to appropriately use the results—thereby not only improving the way the studies are used, but also enhancing the way data are collected and measured.

Positive Aspects of International Testing

- If unique cultural and contextual data are lost, the process of planning, implementing, analyzing, and interpreting international achievement studies is compromised—even though a lost case may be extremely isolated and not representative of the larger sample. Lost data means there is a potential gap in the overall understanding of a particular situation and the impact international achievement studies have on national education policy.

- Valuable information can be lost if only the most individualized data are used to make decisions. The ability to participate in an international community of education systems is a significant advantage to international assessments like TIMSS and others.

- If we couple this advantage with the ability to actually compare the performance, characteristics, and expectations of students, teachers, school leaders, and curriculum specialists, then we can make a strong argument that international achievement studies can and should contribute a great deal to what educators, researchers, and policymakers know about education in their countries and their comparison groups.

Impetus behind Media Coverage

- An under-investigated factor contributing to the broad and strong impact of international achievement studies on national education policy comes not from the research reports and results disseminated to policymakers, school administrators, and education researchers, but from widespread, publicly disseminated media reports.

- In particular, reports on the results of international tests are widely covered by mainstream media outlets, such as national and international newspapers, television news and talk shows, and Internet news and blogs. The media's immediacy and ability to reach the widest possible audience has more impact than a policy agenda from a university-based research group or national ministry of education.

- Often, the impetus behind the media reports is more to provide a commentary on the economic, political, or social competitiveness of a particular country or region than it is to report on the actual educational value or evidence resulting from the study. Media coverage can also represent a shift in blame or responsibility for wider social, political, and economic problems to a nation's education system.

Content Domains and Cognitive Domains

- Most education systems around the world have four aspirational goals: highly resourced schools and classrooms; strong parent and community support; motivated, expert teachers; and consistently high-performing students.

- In looking at student performance, it is useful to examine the differences between content domains and cognitive domains in TIMSS. At the eighth-grade level in mathematics, the content domains are numbers, algebra, geometry, and data/chance; the cognitive domains are knowing, applying, and reasoning.

- Content domains are the material that eighth-grade students are supposed to know, while cognitive domains represent what students are supposed to be able to do with that knowledge.

- The TIMSS data in Saudi Arabia demonstrate that students perform at or near the national average in the content domains of numbers, algebra, and data/chance, but perform significantly below their own mean in geometry. Likewise, in the cognitive domain, these same students perform a little above the national average in knowing math, and a little below in math reasoning, but significantly below the national average in the cognitive domain of applying.

- These data illustrate that Saudi students are average in every domain except in geometry and applying. This means that the student achievement evidence shows us where there needs to be more focus (geometry and applying), and it shows us that Saudi students do not seem to excel beyond their own average in any of the other cognitive or content domains.

Using TIMSS to Inform Policy

- Policymakers and educators in Saudi Arabia might take the evidence from TIMSS and use it to improve teacher training and professional development in geometry, or to improve the curriculum when it comes to geometry and application of mathematics concepts to problem-oriented situations.

- Or, they might disaggregate the data even more, and further break down the evidence into significant groupings. Since Saudi Arabia has a national system of single-sex education, looking at the gender differences in cognitive domains and content domains can be highly informative.

- In the cognitive domains, the evidence shows us that girls outperformed boys in both knowing and reasoning, by a large margin. Since these were the two areas that Saudi students performed at or near the national average, we know from these results that it is the girls (and not the boys) who kept the overall average steady. Without the girls' high performance in knowing and reasoning, then the Saudi average would have dropped significantly in both areas.

- But even more interesting is that boys and girls both performed far below the national average in applying, and that there was no significant difference between boys and girls in applying. This further highlights the fact that applying is the weakest cognitive domain element of the Saudi curriculum, and needs to be addressed.

- We find something similar when we look at Saudi Arabia's content domain scores by gender. Girls significantly outperformed boys in every content domain, but both boys and girls performed far below the national average in geometry.

- The kind of evidence produced by TIMSS can be used to develop new policies, be implemented as actual practical activities, and be an agent for change in how teachers teach and students learn.

Suggested Reading

Kelly, Nord, Jenkins, Chan, and Kastberg, *Performance of U.S. 15-Year-Old Students in Mathematics, Science, and Reading Literacy*.

Martin, Mullis, Foy, and Stanco, "TIMSS 2011 International Results in Science."

Mullis, Martin, Foy, and Arora, "TIMSS 2011 International Results in Mathematics."

Questions to Consider

1. What are the advantages and disadvantages of comparing student achievement worldwide?

2. Why do some countries score so high on standardized tests while others score so low? What is the difference?

3. What does it mean to benchmark educational systems, and how does this help improve or fix what's wrong with education in one country or another?

4. How does international assessment data hold students, teachers, and schools accountable?

5. What are common critiques and misconceptions about international testing?

6. How does the media influence what we know about education in our own and other countries, and how does it change our perceptions of what works and doesn't work?

7. How can internal and external comparisons be effectively used to compare educational systems?

8. What is the difference between internal, peer, and target comparisons, and when should each be used?

9. How are teaching and learning both content- and cognitive-domain related?

10. What role does context play in understanding variation in education around the world?

Turning a Good Teacher into a Great One

Lecture 18

To understand how the world learns, we need to study how the world's teachers teach. In this lecture, we will compare teacher pedagogy in the United States with that in Saudi Arabia, Finland, and Japan, and consider the effects of both school and nonschool factors. We will also explore what makes a good teacher—evidence demonstrates that effective teachers are well-trained, highly collaborative with other teachers, and know how to engage students in learning. A teacher's values, passion, and personality are crucial elements in teaching—but are difficult to quantify. Nevertheless, it is often that individual spark that turns a good teacher into a great one.

Characteristics of Good Teachers

- Teachers represent the point where the education system intersects with the students and the community at large. Teachers not only embody the policies, curriculum, and resources of each education system, they are people who come from the community outside of school, and bring all that context into the classroom.

- Several characteristics have been identified in teacher and teaching research to represent the best about teaching, regardless of culture or context.
    - The first characteristic of a good teacher is expertise or subject-matter knowledge. Teachers who know *what* they are teaching and have experience teaching it are considered to be some of the strongest educators in every school system.

    - A second key characteristic of a good teacher is pedagogical skill; in other words, good teachers know *how* to teach. Knowing how to teach means getting students engaged in the content, and being able to present the content in an understandable and appropriate way.

If teachers are passionate about a particular subject or topic, they are more likely to convey their excitement to their students.

- A third characteristic of good teachers is their personality and their values. If teachers are passionate about a particular subject or topic, they are more likely to convey their excitement to their students.

- In other words, being a teacher is more than just knowledge (*what*) and skill (*how*). It is also about being motivated and bringing value to the teaching profession.

Basis for Comparisons

- As a means of comparison with the United States, we will examine teaching pedagogy in Saudi Arabia, Finland, and Japan. Saudi Arabia has a unique education system that separates boys and girls into single-sex schools; what's more, that country is at the cusp of development in education.

- Finland is appropriate for comparison because it is one of the highest-scoring countries on internationally comparative tests of student achievement, and because its teachers are considered some

of the best in the world. Japan possesses a highly centralized and high-performing education system, and demonstrates much about what is effective in East Asian education systems.

- We will look at some of the school factors that influence teaching—factors that can be manipulated by education policy and reform. Then, we'll shift our focus and look at some of the nonschool factors that affect teachers and teaching—factors that we cannot simply change by adjusting the conditions, resources, or behaviors of educators and others in schools.

Teacher Education, Training, and Professional Development

- In the United States, teachers typically earn a degree from a four-year university, where they also participate in a teacher education program and a supervised teaching experience, called "student teaching." Early-childhood and elementary school teachers usually earn a bachelor's degree in education; middle school and high school teachers usually earn a bachelor's in their subject area, double major in education and their subject area, or earn a master's degree in education.

- Every teacher that teaches at a public school in the United States must be licensed. Teaching licenses are granted by individual states' departments of education, although colleges and universities usually align their teacher education programs with their state's licensing system or requirements. A few states require teachers to obtain a master's degree as part of their licensing requirements, but it is not the norm nationwide. In addition, all new teachers are required to demonstrate expertise by passing a certification exam.

- By contrast, Saudi Arabia's requirements are much simpler—although they are rapidly becoming more rigorous. Saudi Arabia has recently established a commission to create national teacher standards, establish a national teacher examination and certification process, and ensure that the Ministry of Education more rigorously monitors, evaluates, and certifies high-quality teachers.

- In Finland, teachers are required to have a master's degree; most teachers major in education and then complete their master's degree in about five years. General-education teachers and specialist teachers are required by the national government to take a minimum number of credits in their concentration or specialty areas as well as specific pedagogical studies. Finnish teachers are also required to participate in a teaching practicum as part of their pedagogical studies.

- In Japan, teachers must graduate from a ministry-approved university teacher education program, and participate in a pre-practicum based in a school for a few weeks. Once a preservice teacher graduates from the university teacher education program, he or she must pass a teacher employment examination, and then complete a one-year conditional employment period.

TIMSS Data on Teacher Collaboration

- In this discussion of how teachers teach, we will focus on mathematics and science education at the eighth-grade level, and identify several key pedagogical tools and behaviors, including the use of collaboration with other teachers.

- Using student and teacher questionnaire data from the 2011 Trends in International Mathematics and Science Study (TIMSS), math and science teachers in the comparison countries collaborated to improve their teaching in the following ways:
  - Discuss how to teach certain topics.
  - Plan and prepare instructional materials.
  - Share their teaching experiences with each other.
  - Visit their colleagues' classrooms to learn more about teaching.
  - Work together to try new ideas.

- Those teachers who were very collaborative interacted with other teachers at least one to three times each week in three of the areas cited above, and two to three times per month in the other two areas.

Teacher Collaboration by Country

- In the United States, 39 percent of students in math classes and 38 percent of students in science classes had teachers that reported being very collaborative, meaning that they frequently interacted with other teachers to develop and improve their teaching. This is the largest percentage of any of the comparison countries, and suggests that American teachers are remarkably active in reaching out to their teaching colleagues and trying to work together to improve their teaching.

- In Saudi Arabia, which has some of the lowest-scoring students in math and science in the world, 25 percent of students in math classes and 21 percent of students in science classes had teachers that reported being very collaborative. Even in this low-achieving system, about a quarter of eighth-grade teachers are interacting with their peers to improve instruction and teaching.

- In Finland, 19 percent of students in math classes and 15 percent of students in science classes had teachers that reported being very collaborative. As one of the highest-performing countries, with some of the most revered teachers in the world, it is interesting that only about a fifth of teachers are very collaborative with each other. It is also remarkable that this is the case in a country where professional learning communities that rely on teacher interaction are the norm rather than the exception.

- In Japan, 15 percent of students in math classes and 17 percent of students in science classes had teachers that reported being very collaborative. This is the lowest percentage of time that teachers in any of the comparison countries reported interacting with teaching colleagues to improve their teaching.

- It is clear that teachers in mid- and lower-performing countries are much more collaborative with each other than teachers in higher-performing countries.

Types of Teacher Instruction by Country

- Another way to compare teacher pedagogy is to examine the kinds of instruction that teachers use to engage students in learning. Using data from the 2011 Trends in International Mathematics and Science Study (TIMSS), we can see the extent to which teachers accomplish the following:
  - Summarize each lesson's learning goals.
  - Use questioning to elicit reasons and explanations from students.
  - Encourage students to show improvement.
  - Praise students for good effort.
- As with teacher collaboration to improve teaching, the evidence showing the extent to which teachers tailor their instruction to engage students in learning is also uniquely split between those countries that are lower-performing and those that are at the higher end.
- For example, in the United States, about 90 percent of students had math and science teachers who reported using their instruction to engage students in learning during most lessons.
- Likewise, in Saudi Arabia, almost 90 percent of students had teachers who reported using their instruction to engage students in learning during most lessons. In other words, teachers in both the United States and Saudi Arabia are highly active in overtly engaging students in summarizing and questioning, and they also are highly encouraging of students as well.
- By contrast, in Finland and Japan, only about half of their students had math and science teachers who used instruction to engage students in learning during most lessons.

Conclusions about Teacher Pedagogy Worldwide

- Teaching in lower-performing countries is typically more collaborative and more engaging; however, higher-performing countries do not devote as much time to collaboration and student engagement. A reason may be that teachers in high-performing countries have more experience and are more effective and efficient in using these pedagogical tools.

- While teacher preparation and certification vary from country to country, the differences are not that significant.

- Differences in teacher pedagogy are more a matter of degree than a sin of omission or commission. In other words, Finland, which has an international reputation for the high quality of its teachers, does not do anything radically different from other countries like the United States.

- Differences in pedagogy reflect emphasis on certain training approaches, like preservice teacher practica, where teacher candidates learn how to teach by getting into real classrooms and being mentored by more experienced teachers.

- While the content of teacher education programs may be similar, the quality of teachers that graduate from those programs may reflect the quality of the university degree rather than the teacher education program.

Suggested Reading

Alexander, *Culture and Pedagogy*.

Mutua and Sunal, eds., *Crosscurrents and Crosscutting Themes*.

Payne, *A Framework for Understanding Poverty*.

Unite for Quality Education, *Teachers*.

Questions to Consider

1. What makes a good teacher?

2. What makes a teacher's teaching good?

3. How do teachers in different countries prepare to be teachers? Why are teacher requirements different in different countries, cultures, and systems?

4. How do teachers teach in their classrooms and schools around the world? What makes a teacher in one country different from a teacher in another country?

5. How do school and nonschool factors influence the ways teachers become teachers?

6. How do school and nonschool factors influence the types of instruction and activities teachers use with their students?

The Foundations of Civil Society

Lecture 19

Schools are key components in the political socialization of young people. Schools are often part of national education systems, are populated by government-certified teachers, and convey to students a government-approved curriculum. What's more, national education systems are usually mandatory and oversee young people during a significant portion of their key developmental years. In this lecture, we will think critically about political socialization and why it plays such a large part in education worldwide. We will explore the specific ways that students are politically socialized; examine the results of the socialization; and consider the fact that political socialization is less about teaching and learning than it is about creating a functioning civil society.

Civics Education and Political Socialization

- There are two approaches to thinking about schools as components in the political socialization of young people: "civics education" and "political socialization."

- Civics education is an overt curriculum that includes what is taught in government class or civics class in high school. However, students can undergo political socialization outside an overt civics education or curriculum.

- Since the beginning of formal schooling, it has been evident that schools are politically constructed institutions, and that schooling can contribute to the creation of loyal and productive citizens. Schools have long played a role in incorporating young people into the national political culture.

- However, increasingly today, political identity (i.e., citizenship) is globally normalized among young people in many countries.

International Civic and Citizenship Education Study

- Research has identified several main forms of government worldwide: democracy, anocracy, and autocracy. Autocracies are systems where one person or system controls and often dominates the rest. Democracies are governments where the majority controls the system through a system of elections. Anocracies are generally a mix of democratic and autocratic systems, tending to be politically unstable and somewhat ineffective.

- Since 1948, the most significant global trend is the rise in democracies relative to both anocracies and autocracies. Perhaps this trend is due to the impact of formal education; in turn, the rise in democracies may contribute to the global normalization of civic knowledge, skills, and political attitudes among young people worldwide.

- The International Civic and Citizenship Education Study (ICCS) provides valuable data in the international assessment of education. A total of 37 countries participated in the ICCS 2009 assessment, although only 35 countries presented data relevant to the political socialization of young people.

- The data from ICCS 2009 present student achievement by 13-year-olds in a test of knowledge, conceptual understanding, and competencies in civics and citizenship education. The assessment also provides evidence on student dispositions and attitudes relating to civics and citizenship.

ICCS Data for Hong Kong and Taiwan

- The national context survey in ICCS collected information about the provision of civics and citizenship education in each participating country. We will focus on two communities that participated: Taiwan (democracy) and Hong Kong (autocracy).

- Results for the official overt civics curriculum show that there is relatively little difference in the topics or content between the two government types represented by Hong Kong and Taiwan.

However, there is significant variation in the emphases on civic values between the two communities, largely because the official curriculum in Hong Kong does not emphasize democratic values at all.

- There is a significant and positive correlation between government type and measures of processes and topics that represent the ways young people are being socialized into particular political identities and civic values in schools.

- We do have preliminary evidence that suggests that overt civics curricula do not vary as much as the less obvious teaching of civics values through the school structure and opportunities for young people to learn or demonstrate those values in school. This is a finding that we can use to build a more comprehensive understanding of the impact of government type on the political socialization of young people.

Standardization of Schooling

- The increasing availability of international comparative education information has had a profound effect on education policy making and governance worldwide. It has intensified an environment of extensive policy borrowing from one nation to the next by providing international comparative benchmarks for education, economic, and social development.

- In some cases, this development has led to a gradual standardization of education structure and delivery in otherwise diverse systems through the development of "internationalized" models of education governance and policy.

- For most of the history of modern mass schooling, the state has been the agent of education expansion, cultural dissemination, and political governance. For example, a system of centralized management became the basis for education governance worldwide as modern mass schooling spread throughout Europe and, eventually, the rest of the world.

- In addition to the standardization of the various components of schooling, an emphasis on the incorporation of all communities within a common system with uniform decision making provided a basis for a common model of education governance that was replicated system by system in every country around the world.

A Global Education Model

- Government education entities tend to be similar in purpose and vision, even across otherwise different national political systems. For instance, political stability, economic growth, and citizenship formation are common goals that state-sponsored education systems around the world strive to achieve regardless of political structure.

Government education entities tend to be similar in purpose and vision, even across otherwise different national political systems.

- Even though more recent waves of education decentralization and privatization have shifted some of the responsibility for education, a global education model remains firmly ensconced in the public psyche and has institutionalized the governance, policy, structure, and implementation of education.

- Some experts maintain that no part of the world is immune from global systems. Globalization is changing the politics of the nation-state, and our modern education systems, which emerged out of the era of nation building, are just as susceptible to internationalization today as are goods, services, money, people, and ideas.

- Other scholars find that assimilation and convergence of education systems are quasi-natural social processes of internationalization, and that cultural diffusion is responsible for the modernization of education. Such policy diffusion has resulted in far-reaching convergence of education systems in all national societies.

Japan Exchange and Teaching Programme

- The Japan Exchange and Teaching Programme, or JET, provides a useful example of internationalization and policy diffusion. JET is administered by the Japanese government, which invites college graduates from around the world to teach their native language (usually English, French, or German) in Japanese public schools for a period of one to three years.

- The goal of JET is to promote internationalization in Japan's local communities by improving foreign-language education and promoting international exchange at the community level. JET has also encouraged the spread of Western ideals throughout the Japanese education system.

- The sharing and comparison of Western ideals, models, and education culture has impacted Japanese teachers, students, and administrators. In turn, American, Australian, and European JET teachers and administrative representatives have brought Japanese ideals and practices back to their respective education systems.

Impact on Education Decision Marking

- At the beginning of the 21st century, education decision making is already largely internationalized worldwide. As noted above, a major contributing factor is the widespread availability of international comparative education data.

- United Nations Educational, Scientific and Cultural Organization (UNESCO) data provide information on enrollment, expenditures, and other fundamental points for comparison between countries. Additionally, achievement studies like the Program for International Student Assessment (PISA) and Trends in International Mathematics and Science Study (TIMSS) have become ubiquitous components of the education decision-making processes.

- While international data sets are not solely responsible for the internationalization of education decision making, they do facilitate the development of international education governance and the transfer of policies, methods, curricula, and even lesson planning among policymakers, administrators, and educators across national systems of education.

A Surprisingly Stable Structure

- The global trend has not been for education decision makers simply to adopt one standardized model of education governance, however; the process has proved much more complex.

- As national education systems expanded worldwide, they did so largely with the support of state or government sponsorship. As a result, for most of the history of modern mass schooling, national education systems have been governed by the state.

- Yet this model of government sponsorship at all levels of mass education has been challenged by decentralization and privatization movements around the world—sometimes at the urging of the local communities and sometimes encouraged by multilateral aid and development organizations.

- Nevertheless, there is still a surprisingly stable global structure of education governance. Schools around the world, regardless of their status as publicly or privately governed institutions at both the local and national level, continue to follow similar models.

- This is a significant phenomenon because it suggests that there is a legitimate institutional base model for schools that is taken for granted and remains surprisingly stable, given the amount of cultural and social variation that contextualizes each nation's education system.

A Pervasive World Culture

- Some evidence suggests that mass schooling has helped establish a legitimate and pervasive world culture. This same world culture is also impacting schools through the common structure and shared norms that mass schooling both incorporates and disseminates.

- The phenomenon of globalization also contributes to the discussion on international education governance because of its particular emphasis on the condition of modernity, cultural impact, and complex interactions between decentralization and centralization of power.

- Those who control which knowledge or policy is legitimate are those who govern. And if legitimacy is in reference to a global governance structure, then educators, researchers, and policymakers should be thinking about challenging that which is taken for granted in order to make changes and improvements to the way education governance is realized worldwide.

Suggested Reading

Benavot and Resnik, "Lessons from the Past."

Leuze, Brand, Jakobi, Martens, Nagel, Rusconi, et al., "Analysing the Two-Level Game."

Phillips and Ochs, "Processes of Policy Borrowing in Education."

Questions to Consider

1. Has democratization been embedded in formal education worldwide?

2. Is there a noticeable difference in political identity and values among students in different educational systems around the world? If so, is the education they receive responsible for these differences?

3. How does a country's political context influence the ways that policymakers, administrators, and teachers make decisions about education?

4. How are educational systems governed in different systems around the world?

From National Student to Global Citizen

Lecture 20

Global citizenship can be explicitly taught through direct instruction in knowledge, skills, and values; or implicitly communicated through education in international or global affairs, languages, and art. In this lecture, we explore how education systems in countries around the world encourage global citizenship both explicitly and implicitly, and focus on the efforts of two international nongovernmental organizations (NGOs)—Oxfam International and the International Baccalaureate foundation—that have influenced the development of global citizenship. We will also consider the notion of becoming a "citizen of the world," and how global citizenship centers around shared experiences and fundamental norms and values.

Global Citizenship

- The ways that people, especially young people and students, become global citizens has to do with what Cornell University professor Benedict Anderson has called "imagined communities." More specifically, Anderson defined a nation as an "imagined political community" that is "both inherently limited and sovereign." Anderson's point is that although governments have rules and boundaries that limit the state itself, nations are different.

- To be a citizen of the world is to identify with others around the world not because we share a government or a language or an ethnicity but, instead, because we share key experiences and fundamental norms and values (in other words, culture).

- Education—especially formal schooling—is the experience we share with most of the world's population, and the norms and values that are transmitted through that education experience constitute a shared culture.

- Research shows that we connect with "schooled" society worldwide regardless of our nationality. Those of us who have been through the formal education system are citizens of an imagined "schooled" community. This is part of being a global citizen—identifying with others who also have had the same or at least similar experiences as students in schools.

Oxfam International

- Global citizenship not only refers to shared experiences; global citizenship can be taught—either explicitly or implicitly. Oxfam has developed a curriculum specifically to teach students the meaning of global citizenship, and how to become a global citizen. *Oxfam* is the abbreviation for "Oxford Committee for Famine Relief," an institution that was originally founded in Great Britain in 1942 as an emergency relief organization.

- In 1995, Oxfam International was established by a group of independent nongovernmental organizations. Oxfam International's goal is to reduce poverty and social injustice worldwide. As parts of its efforts, Oxfam has created one of the most influential global citizenship curricula in the world.

- Oxfam's global citizenship curriculum is particularly prominent in England, Scotland, and Wales. In Scotland, Oxfam works closely with six different Scottish Development Education Centres to train and support teachers in learning about and incorporating global citizenship into their teaching and curricula. Oxfam provides professional development training, resources for teaching global citizenship, and support for related projects with students.

- In England, Oxfam has developed Youth Ambassador groups with many different schools. Youth Ambassadors are locally coordinated action groups that involve teachers and students in projects related to social justice and poverty reduction. Oxfam's online resources related to global citizenship provide a curriculum that teachers can use to supplement their regular curriculum or employ as a standalone unit on global citizenship.

- The knowledge components of Oxfam's global-citizenship curriculum teach students about concepts like social justice, equity, diversity, globalization, sustainability, and the nature of both peace and conflict. The skills components of the curriculum teach students how to think critically, argue effectively, challenge injustices and inequalities, respect all people and things, and cooperate and resolve conflict. The values and attitudes components of the curriculum emphasize identity and self-esteem, empathy, respect for diversity, sustainable development, and concern for the environment.

International Baccalaureate

- Another overt model for global citizenship development used all over the world is the International Baccalaureate (IB). The IB, created in 1968, is a nonprofit education foundation that offers four programs of international education meant to develop the intellectual, personal, emotional, and social skills that students need in a rapidly globalizing world. IB schools must be authorized by the IB organization to offer any of its programs; so far, approximately 4,000 schools worldwide have become IB schools.

- Of those approximately 4,000 schools, more than half are in North and South America; about 24 percent are in Africa, Europe, and the Middle East; and about 18 percent are in the Asia-Pacific region. The IB schools are usually private, independent, or chartered schools, but some government or state-sponsored schools in countries around the world participate as well.

- As part of the IB program, students are broadly exposed to world literature, world languages, and world history. People who support the IB approach maintain that the IB curriculum encourages global citizenship because it creates students who are knowledgeable about the world, can communicate with people outside their own community and country, and have a sense of international awareness.

- For example, every year, the IB program releases a new set of "global lessons." These lessons fit within the IB programs of study, but are also shared publicly and in multiple languages

so that teachers worldwide can use them. The topics are usually international in scope and tend to be targeted to a more elite culture.

Civics and Citizenship Education—A Comparison Worldwide

- The phenomenon of global citizenship also depends on local context and community. Each country has its own unique approach to how civics and political education contribute to the development of global citizens.

- Research has studied what students know about civics and citizenship, and the ways in which students' involvement in school activities translates to their participation in civil society and politics after they leave school. Evidence from the roughly 38 countries that participated in the 2009 International Civic and Citizenship Education Study (ICCS) concluded that ninth-grade girls, in particular, tended to have higher levels of knowledge about civics than boys, and participated in more school and community civic activities.

- In Hong Kong, a special administrative region of China, moral and civics education activities are promoted in school-based programs, morning assemblies, classroom instruction, and school-coordinated community service activities. These activities include "green," or environment, days and national flag-raising ceremonies. In this system, however, students are not able to formally participate in school governance.

- This is in sharp contrast to civics education in the United States, which provides ample opportunities for students to be politically involved in their schools and communities through extracurricular organizations as well as student government.

- In Finland, civics and citizenship education is a part of education through some of the basic values included in the curriculum and activities taught throughout the basic education system. For example, human rights, equality, democracy, diversity, and the environment

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Civics education in the United States provides ample opportunities for students to be politically involved in their schools and communities through extracurricular organizations as well as student government.

are all topics of study. What's more, teachers work to promote responsibility, a sense of community, and an understanding and respect for individual rights. More recently, Finnish schools have established student boards at both the primary and secondary levels.

- England, on the other hand, has a specific recommendation that citizenship education be taught in schools at the early primary levels; it then becomes a required subject as students progress. The curricular content ranges from understanding individual rights to learning about politics, geography, and economics. There are also opportunities for students in England to participate in community projects, school councils, and other extracurricular civics activities.

A Worldwide Trend

- The trend worldwide is for education systems to include a civics and citizenship component in their curriculum—either explicitly as a standalone course, or implicitly as part of other subjects being taught. Regardless of their particular education system or political

ideology that contextualizes it, students in all these comparison countries are receiving basic information about social justice and the importance of civic engagement.

- What's more, while the perspective may differ from country to country to a greater or lesser degree, students the world over are learning that social injustice is wrong, that community participation is a positive force, and that they should be willing to take action to make the world a better place.

- What we are seeing is an officially uncoordinated but highly effective effort to educate students around the world with similar knowledge, skills, and values. And these particular types of knowledge, skills, and values contribute to the understanding and identity of youth as global citizens as much as national citizens.

Becoming a Global Citizen

- Through the Oxfam and IB curricula and the nation-specific civics and citizenship education that goes on in schools around the world, students are learning the significant aspects of global citizenship. Both explicit and implicit attention to issues of social justice, equality, diversity, and other areas help students think about patterns and connections between issues. Evidence shows that students tend to make connections in the following four areas.
    - First, global citizenship involves exploring the connections and similar experiences that all humans share, even if they live in different places or experience different contexts.

    - Second, global citizenship involves exploring the links that exist among people through trade, technology, immigration, and the environment.

    - Third, global citizenship involves exploring the links between issues like poverty or war.

- Fourth, global citizenship involves exploring the links between issues that may seem global at first, but are also meaningful in students' immediate and local context as well.

- When we consider the ways that education systems in so many different countries and schools around the world operate, we see that global citizenship is more the norm than the exception. In fact, the essence of global citizenship is a combination of identity, knowledge, skills, and action. What's more, it is rooted in concern for making the world a better place, and being an integral part of that place.

- Global citizenship is both something that is taught and something that happens as a result of shared experiences. We are citizens of the world because, even though we may differ politically with people in Hong Kong or Finland, we still share core norms and values about social justice, environmental protection, and human rights.

Suggested Reading

Ainley, Schulz, and Friedman, "ICCS 2009 Encyclopedia."

Schulz, "Educating for Informed and Active Citizenship."

Wiseman, Astiz, Fabrega, and Baker, "Making Citizens of the World."

Questions to Consider

1. What does it mean to be a global citizen?

2. How do schools create global citizens?

3. How does education create national identity among youth in different systems around the world?

4. What are some of the most effective ways to explicitly teach global citizenship? How is this done in the United Kingdom and other countries?

The Problem with Teaching's Best Practices

Lecture 21

Most people assume that education successes in other countries can be easily transferred to their own national systems. However, global best practices in teaching and learning are highly dependent upon context, and targets and goals for education can vary greatly. In this lecture, we will examine what works for teachers and students in several education systems around the world, and discover that what produces a positive outcome in one place does not necessarily translate into success in another. We also consider the fact that the key to superior education is less about prescribed activities or methods, and more about understanding who the teachers and students are, and the expectations placed on them by schools and society.

Democratic Localism

- Every school and education system around the world has its own history: political, social, and economic. What's more, local views and ideologies in the context of these histories play a significant role. In the United States, we have developed a unique blend of centralized education decision making combined with decentralized responsibility for implementing it. The way we educate students is a product of our own distinctive history, political landscape, and social and cultural norms.

- A phenomenon known as "democratic localism" is a cornerstone of the American political system and social ideology well beyond the classroom. Democratic localism is the belief that local communities should govern themselves—from building local roads and housing developments to drawing up local ordinances and state laws. Democratic localism also means empowering citizens to make certain decisions about education in their communities.

- Because democratic localism implies that local communities are responsible for education, national agendas and standardized curricula are viewed with suspicion and often met with resistance. In recent years, we have seen challenges to the reauthorization of the 1965 Elementary and Secondary Education Act—known as the No Child Left Behind Act—as well as opposition to Common Core curriculum standards.

South Africa

- Considering global best practices in context, Africa is home to many former colonies that struggle—as independent states—with ways to overcome the colonial roots of their education systems, and to introduce post-colonial, "Africanized" ways of teaching and learning.

- The Bantu education system instituted in South Africa during the 1950s—which placed African education firmly under the control of the national government, and thereby wrested it away from the missionary schools that had helped produce young scholars such as Nelson Mandela—was established to keep black South African students subordinated to the rest of the population.

- Some experts now argue that "Africanizing" education in the continent's post-colonial age is essential to providing an education that is relevant to native Africans rather than using a system that reproduces the colonial culture and expectations.

Best Practices

- Best practices in an education system often depend on a country's definition of education, and the expected outcomes of education.

- If, for example, a culture believes that superior education is reflected in a student's scores on standardized tests, then it will have a much different perspective on what works than if that culture believes that superior education is evidenced by a student's ability to live,

work, and succeed in broader society. Those differences between countries, cultures, and education systems constitute the dilemma in deciding what are global best practices in teaching and learning.

- Many experts who compare and contrast education around the world favor education systems that tend to produce the highest-scoring students on the international standardized assessments. In the next several sections, we will examine these high-performing education systems, and highlight the best practices they demonstrate.

Taiwan

- In Taiwan, students typically score at the upper end of the international achievement rankings. Taiwanese students characteristically are studious, work well under pressure, and seem to have an encyclopedic knowledge of the items that are regularly tested.

- But Taiwan also has a "high-stakes" education system. This means that social and economic mobility—which is one way of measuring how well someone does in life—is tightly linked to school performance.

- In junior high school, Taiwanese students prepare for the national high school entrance exams; then, in high school, they again prepare for the national university entrance exams. If they do well on the national university entrance exams, then they can get into a four-year university—which is a gateway to prestigious jobs that bring status and economic security.

- As a result, best practices in teaching and learning in Taiwan chiefly consist of preparations for these many entrance exams. Of course, the curriculum is worthwhile in its own right—consisting of math, science, literature, and other subjects—but the ways that teachers help students prepare is not so much about developing a flexible and critical understanding of the content as much as it is about drilling students on facts and testable knowledge.

- To many Americans, the Taiwanese education system seems like a nightmare, focusing only on getting the correct answers so that students do well on the tests. But for the Taiwanese and Japanese, to name only two high-stakes education systems, this kind of teaching and learning is considered optimal because it succeeds in their own country's context.

Finland

- Finland, whose students are also very high-scoring on international standardized tests, is at the opposite end of the spectrum from Taiwan, however. Finland has a system that focuses on equitable access and contextualized education. Teachers teach in ways that incorporate the "human" elements of relationships by creating lessons that encourage interaction among students and making the time to provide truly individualized attention to students, even beyond the regular classroom hours.

- Not surprisingly, Finland does not have any required standardized or entrance examinations during basic primary and secondary schooling. Instead, teachers are given the flexibility and support to work with individual students, as well as entire classes, in ways that are highly relevant to the strengths and weaknesses of each individual learner.

- Best-practices teaching in Finland is built on relationships between teacher and student that are close and long-term. It is not a system where students are necessarily turned over to a new teacher at the end of every semester, or academic year.

- In fact, the relationships that make up best-practices teaching in Finland are not only between teacher and student; they are also between teacher and teacher. While collaboration and professional interaction between teachers is not commonplace around the world, it is expected among teachers in Finland.

- Finnish teachers can call upon aides and specialized instructors to assist when needed, or to provide special services for students with linguistic, cultural, cognitive, or emotional learning challenges. This collaboration and interaction signifies a degree of respect and professionalism among teachers that is encouraged by peers and education administrators.

Outcomes Drive Best Practices

- Considering the education systems of Taiwan and Finland, we see that if the objective is test scores, and the context is a high-stakes education system, then there are clear best practices involving the accumulation of facts (and the disassociation of knowledge). In Taiwan, it might be a distraction—and a disadvantage—to focus on how to use the knowledge that students learn, because it would detract from the expectation that there are right and wrong answers that can be measured on a standard exam.

- In Finland, we see that if the outcome is understanding and individualization, then teachers have to be prepared and professional. They also must be innovative, on the one hand, and willing to collaborate with one another, on the other hand, in order to resolve difficulties and overcome challenges. And, of course, they must be able to make decisions about what and how to teach, so that students are able to make connections between what they learn and its real-world usefulness.

Increasing Time in School

- It has been a popular tactic of education systems intent on reform to scrutinize the amount of time that students and teachers in high-performing countries spend in school. Since many of the highest-scoring students on international assessments of education achievement are from countries like Taiwan and Japan, a strategy of some Western countries has been to duplicate the education policies of these East Asian countries related to number of instructional days.

- The logic is that if teachers and students had more time together, then the teaching and learning that took place would be more in-depth and more consistent. Education reformers reason that increasing the number of days that students are kept in school during a year and lengthening the instructional time in class will lead to significant improvements in teaching and learning. But what educators have found is that there is some misunderstanding about the differences in instructional time and the length of the school year.

- Having more time in school is a positive. For example, block schedules have been highly successful in schools across the United States because they give teachers and students the chance to prepare, implement, and assess teaching and learning in 90-minute blocks rather than pushing students through much shorter 50-minute periods.

- But lengthening the school year has not been as successful when implemented in the United States because, as it turns out, not as much of the time spent in school in Japan and other high-performing systems was dedicated to instruction time as was originally thought. In fact, much of the extra time in school was dedicated to noninstructional activities like sports and clubs—in other words, time used to develop relationships or extend opportunities for students to engage in academic and other learning activities.

- One change that seems to have shown the most impact is shifting the way that the time in school is divided. The United States traditionally has had a long summer vacation—but much learning tends to be lost between the end of one school year and the beginning of the next.

- Today, some schools have restructured their breaks throughout the year so that there is a smaller gap in direct instructional time over winter or summer holidays. While teachers and students are still pursuing education in the same ways, they are more able to seamlessly link past learning to future learning when there is not a three-month hiatus in the middle of the year.

Suggested Reading

Akiba, ed., *Teacher Reforms around the World*.

Blömeke, Suhl, Kaiser, and Döhrmann, "Family Background, Entry Selectivity and Opportunities to Learn."

Luschei, Chudgar, Rew, Klugman, Francois, and Mehta, "Exploring Differences in the Distribution of Teacher Qualifications."

Questions to Consider

1. Do all children deserve the same education? Do they all have the same opportunities beyond school?

2. Should teaching and learning look similar in different cultures and communities around the world, or is every classroom, teacher, and student unique?

3. What are global best practices in teaching and learning?

4. Is a difference in emphasis from country to country or school to school a radical departure from a normed model of schooling? Why?

5. What constitutes truly innovative teaching and learning? What examples are there from around the world?

A School inside Your Phone?

Lecture 22

Imagine that school is not located in a place, a building, or a classroom. Imagine that the traditional role of teacher has been replaced because there are other ways to disseminate and structure education, largely through the use of new technologies. Imagine a world where creating and managing knowledge is more important than learning and using old information. This future is not imaginary anymore. Technology can change what, and how, we teach and learn. What's more, it is a tool not limited by culture or context.

The Digital Divide

- Advances in technology allow most of us to access a seemingly infinite amount of information. Computers and Internet technology have become embedded in the fabric of life in the developed countries of North America and Europe and in much of the world. Even in countries where the economy is still developing—and the technological infrastructure lags behind—there are access points where technology is available.

- The promise of access to information and communication technologies (ICTs) exists somewhere between the worlds of what is real and what is ideal. There is much discussion about how important ICTs are for education around the world; however, it is less evident that ICTs make a difference in teaching and learning consistently across different communities, classrooms, and cultures.

- In fact, the "digital divide" still exists—that gap between people, regions, or groups in terms of their access to ICTs. Some have full access and control over technology, while others lack access completely, or have their access restricted or limited by others, or by shortcomings in the technology infrastructure.

- Nevertheless, there is still the shared expectation that, at some point in time, areas lacking ICTs will become more connected to further their economic and education growth. There is still intent and relative opportunity for technology use, even though it may be restricted or limited.

One Laptop per Child Initiative

- As ICTs become institutionalized and more prevalent, this will increase the likelihood of shared digital communications experiences, as more students learn the basics of operating a computer, the parts of a computer, and basic programs, as well as how to communicate through e-mail, instant messaging, and texting—often as part of their formal curriculum or learning resources in schools.

- The "One Laptop per Child" initiative, which began in 2005 in Boston, Massachusetts, seeks to place ICTs in the hands of children in developing nations. Education figures prominently in the One Laptop per Child program, which states the following:
  - Across the developing world, education systems need to change dramatically to prepare children for the modern world.
  - Children (and adults) learn best when they are actively involved in learning.
  - Involved teachers, relevant content, and appropriate technology can facilitate both education change and learning motivation.

- The One Laptop per Child organization reports that it has provided low-cost, low-energy, rugged laptops to 2 million students and teachers in Latin America; half a million students and teachers in Africa and other parts of the world participate as well.

- The largest national partners for One Laptop per Child are Argentina, Mexico, Rwanda, Uruguay, and Peru. Uruguay was the first major country in the world to provide every elementary school child with a laptop. The One Laptop per Child campaign has other projects, as well, in Gaza, Afghanistan, Haiti, Ethiopia, and Mongolia.

Computers and Internet technology have become embedded in the fabric of life in the developed countries of North America and Europe and in much of the world.

Digital Divide in South Africa

- Consider the following case study of the digital divide, as evidenced by two different schools in South Africa. The digital divide exists between these two schools not because of a lack of technology resources but because of a lack of capacity among students and teachers, and a lack of sustainability for the technology available.

- One South African school had a computer lab with about 30 desktop computers in it. The computers were all in working condition, and there was an Internet connection—although the school's Internet service was not very strong or consistent.

- While the teachers and students knew how to use computers to check e-mail and social media, and to play games, the teachers did not understand how to use the computers in their computer lab to facilitate instruction, or to creatively and interactively teach the

school curriculum to their students. In short, the knowledge and skills necessary to use the available technology just did not exist at this school. Because of this lack of knowledge and skills, the technology was not sustainable.

- By contrast, a second South African school also had a computer lab with much the same equipment as in the first school. But the teachers knew how to apply the technology for instruction related to the curriculum, and not just to play games and check social media.

- The teachers also had students who used the computers to supplement their regular learning by finding new information, or by communicating with people about issues they needed help in understanding. Technology was both a topic and tool.

An On-Demand Culture

- There are even newer ways that technology is successfully shaping how the world learns. With the advent of mobile technology, education is becoming more "on demand." This means that people no longer have to go to school, or take a formal class, in order to learn something new. Mobile technology means that one can check a fact, look up information, and communicate with experts—at any moment and from anywhere.

- While mobile technology use has increased dramatically around the world, this is nowhere more evident than in Saudi Arabia and Kuwait. Their increase in mobile use is a significant development, one that has the potential to boost the participation of Gulf state nationals in the private sector, which is driven by the knowledge economy.

- In order to foster active and entrepreneurial involvement of young people in the knowledge-based private sector, a significant goal for the Gulf states and countries around the world is an evidence base for strategic planning, development, and application of mobile technology in education.

Digital Entrepreneurs

- The on-demand culture means that there are many young digital entrepreneurs accessing information wherever they are, and whenever they want. This kind of flexibility is primarily possible through the use of mobile technologies.

- Nick D'Aloisio, for one, is a British-Australian entrepreneur and the creator of a news-summary-reading application called Summly. By the age of 18, he succeeded in selling this application to Yahoo for an estimated $30 million.

- In an interview in Britain's *The Guardian* newspaper, the teen millionaire said, "The whole world of knowledge is literally in your pocket, and that wasn't there years ago." He said, "It means as a young person if you're ever curious about something, you can literally type it into Google and learn about it, because everything is there for free."

- Abdulrahman Alzanki, an adolescent from Kuwait, is one of the youngest digital entrepreneurs in the world. Although he was only in the 10th grade at the time, Alzanki succeeded in developing a free Apple iPhone app named Doodle Destroy, which was downloaded more than 800,000 times, and remained for a time among the top-five-most-downloaded apps in the world.

- The potential education applications of mobile technology are tremendous, because mobile technology provides broad opportunities for innovative thinking and entrepreneurship. It enhances the potential of young adults to use their digital skills for more than just social media or playing games.

Learning through Mobile Technology

- Educators and education reformers are discovering the uses of mobile technology in the classroom. Mobile platforms present a unique way of learning compared to more traditional desktop technology. For example, education through mobile technology tends to be needs focused: As you need information, you seek it and use it.

- On-demand education is much different from the traditional methods of learning because the student does not need to memorize, or even remember, a great deal of data. Information is stored on the Internet, in the cloud, or in whatever memory space technology provides.

- Learning through mobile technology is also distinctive because it is more focused on managing and organizing data than on acquiring and storing it. In other words, the problems of learning and remembering information are comparatively insignificant to the challenges of sorting through all the massive databases of information available online, or in a computer's memory.

- The challenge is to find what you need, and what is relevant. Therefore, data management becomes a key skill to take full advantage of mobile technology for education.

Needs-Based, Nonlinear, and Networked

- Learning through mobile technology is typically less linear and more networked than in traditional education systems. In other words, there is a different sequence to learning through on-demand, mobile access to information.

- Sometimes the nature of a topic requires a specific sequence—for example, one has to know how to add and subtract before moving on to algebra. Once the basic information is acquired, however, there is no longer a need to move sequentially from one level of information to the next. With mobile technology, information is mapped relationally across different topics, ideas, approaches, perspectives, and content.

- Mobile technology provides the opportunity to insert expertly validated information into everyday conversations, rather than relying on speculation, interpretation, or simple memory. Mobile technology provides control over how information is sought and applied, rather than relying on teachers or other identified experts to share the information with students at a deliberate pace.

- What's more, mobile technology has become ubiquitous. Mobile phones are common in poorer communities and rural areas, and the use of smartphones that allow ever-expanding access to the Internet and handheld computing is growing exponentially.

- While education plays a key role, the ways that mobile technology can be used to facilitate teaching and learning have not yet been fully institutionalized. What is unique about the shift toward mobile technology is that the learning has to be increasingly needs-based, nonlinear, and networked. That transformation has not yet happened on a large scale, or in a consistent pattern—yet.

Suggested Reading

Drori, *Global E-Litism*.

Fisherkeller, *Growing Up with Television*.

Indian Diplomacy, *Dismantling the Digital Divide*.

Stromquist, *Education in a Globalized World*.

Wiseman and Anderson, "ICT-Integrated Education and National Innovation Systems."

Questions to Consider

1. How does technology change the way education occurs? What is the influence of context both inside and outside of formal educational systems on technology use for teaching and learning?

2. Can formal education exist with technology but without formal schools, teachers, and classrooms?

3. How is mobile technology advancing inquiry-based education around the world?

4. Does the latest technology consistently apply to the development and improvement of education worldwide?

The Rich-and-Poor Learning Cycle

Lecture 23

In this lecture, we will explore the ways that countries around the world endeavor to achieve success in education, and discover that the best way to achieve successful education is to align school and nonschool factors to create equitable and contextually relevant environments for learning, and to provide quality and opportune conditions for learning in school. Although school and nonschool factors that contribute to education success seem to be fairly stable—from country to country, and from context to context—there is still no single formula for achieving education success, because every school and community combination is unique.

Measuring Education Success

- To many people, high scores on standardized tests demonstrate successful education. In high-stakes education systems such as Japan and Taiwan, test scores determine advancement from one level of schooling to the next. And in the United States, test scores measure—or at least denote—a formal evaluation mechanism known as "adequate yearly progress," which is tied to federal funding.

- Tests are an efficient measuring tool because they can be administered while students are in class. The knowledge tested can be fairly easily linked to the curriculum, and the data that result from standardized test scores and school grades can be recorded, tracked, and analyzed by educators, administrators, policymakers, and researchers alike.

- Consider the two main international assessments of education, Trends in International Mathematics and Science Study (TIMSS) and Program for International Student Assessment (PISA). While TIMSS measures what students know (in math and science), PISA evaluates what students can do with that knowledge. Although PISA is still a measure of student achievement, its questions are meant to elicit how students use that knowledge, rather than whether or not they know the curriculum.

- Transition and mobility within an education system—such as from school to work, or from school to university—is another measure of success. These kinds of transitions are not the result of a direct, or causal, link, however. While the percentage of graduates who are employed is one way to measure the success of an education system, in some countries, the transition to work or to university is facilitated by family networks.

School and Nonschool Factors

- The procedures and outcomes of successful education systems change from country to country, and from system to system. And true success in education is a delicate balance between school factors and nonschool factors.

- School factors are elements and influences that can be changed or manipulated within the education system: school facilities, buildings, resources like books or technology, teacher characteristics, and curricula.

- Nonschool factors are forces and influences that originate outside of school, and that cannot be changed or "fixed": a society's culture, a nation's economy, a family's social status and income, and the influence of friends and community.

School facilities, buildings, resources like books or technology, teacher characteristics, and curricula are examples of school factors.

Education Success in the United States

- In the United States, the highly decentralized nature of education reflects the fact that the financial support and governance decisions for each state and school district are the responsibility of local constituencies and leaderships, which represent distinct communities—sometimes with very different education priorities. As a result, education indicators of success in the United States vary quite a bit.

- In the United States, student achievement across the nation is relatively average, on the whole, by international measures. But the reason is not that the country as a whole is average. Rather, the reason is that Americans produce a very wide range of testing performance, from very low to very high, across the country.

- Mobility within the education system in the United States is fairly easy—friction free—because the United States does not operate on a high-stakes testing system, and its students are generally not tested in order to gain acceptance to the next grade or level. On the other hand, the transition from school to university or work is very competitive.

- In the United States, we do not see established or institutionalized links between schools and employers, or between schools and universities. Entrance to higher education—as well as to the labor market—is much more the responsibility of the individual student rather than the family, school, or society.

- Americans, by their nature, are more likely to give credit to the individual student rather than to the education system for success. This is, in part, due to the decentralized nature of U.S. schooling. But it is also a remnant of the enduring ideologies of individual exceptionalism and meritocracy in America, which tend to view individuals as unique, and success as resulting from merit (i.e., hard work) rather than from privilege or social advantage.

Education Success in Hong Kong

- Successful education in many other countries looks remarkably different than it does in the United States. Hong Kong, for example, is a high-stakes education system where entrance to the best schools at each level of primary, secondary, and tertiary education is determined by highly competitive examinations.

- One outcome of this high-stakes system is that Hong Kong students typically score extremely well on international comparative achievement tests, such as TIMSS and PISA.

- Being a student at the best primary schools in Hong Kong offers some advantage simply because of the status, or prestige, associated with it. But the even greater advantage is that teachers and students at these schools know how to best prepare for the entrance exams into the best secondary schools, and then, at the secondary schools, to prepare for the future examinations that lead to the best universities and, ultimately, the best careers.

- In the United States, how well a student can take a test is not a meaningful measure of the student's potential. Often, the goal of U.S. education is to prepare a student to make use of knowledge in a creative fashion that involves a new combination of knowledge and skills.

Education Success in Finland

- In Finland, the traditional indicators of education success—student achievement and mobility within and out of school—are not as important as they are elsewhere. Instead, successful education in Finland is more about engendering understanding and developing a child as a decent, healthy, and educated citizen.

- There is certainly a unique set of conditions that enable this definition of success to guide education decisions and practices in Finland. But it was a conscious policy by the Finnish government—and its education sector—to create a system like this. And it seems to be working.

- In Finland, standardized tests are rare, and—when they are given—often voluntary. Results are not reported publicly, and educators use the results to help them improve teaching and learning, rather than to indicate success.

- While employment and labor market productivity are certainly important to Finland, these are not indicators that educators or others use to gauge education success. Instead, there is a specific focus on individual and local decision making that gives teachers the freedom to consider what their students need, and determine what successful education looks like in their own communities.

Teaching—Not the Only Indicator of Success

- Two key school factors in education success—broadly defined and broadly applied—are related to teaching and learning. In terms of teaching, the goals that often lead to success are preparing highly qualified teachers; providing them with ample opportunities for professional development; emphasizing the importance of teacher relationships and ability to contextualize teaching; and encouraging a focus on the work of teaching itself.

- Consider the case of a South African school, which was studied as part of a project known as the South Africa Educational Development Initiative. The student population consisted of two types: the very poor from the squatter camp nearby, and a relatively middle-class group. While the school was clearly a disadvantaged one, serving a highly marginalized student population, the teachers there were special.

- The teachers were educated professionals and enjoyed status and moderate prosperity as teachers. They had been educated at local polytechnic institutions in South Africa, and most had worked—often in that same school—for 10–20 years. They were highly qualified, meaning they had a specialized degree in education and their subject area.

- They participated in professional development workshops, collaborated with one another, and had close relationships with their colleagues at the school. What's more, they knew their context very well and had fine pedagogical skills.

- According to many of standard teaching-related indicators of success, they should have been successful. However, their students still underperformed, by international measures. This is an example of how teaching is not the only, or perhaps even the best, indicator of successful education.

Being Ready to Learn

- Learning relies on student preparation and readiness, student understanding and capacity for learning, student academic performance, and the application of learning outside of school. While teaching-related indicators of success are highly aligned with school factors, learning-related indicators of success are highly aligned with nonschool factors.

- In the South African school described above, many of the poorer students were largely unprepared for school: Many did not eat outside of the meals provided by the school. Many did not have stable families, or live in the same place from night to night. Many were victims of domestic violence and sexual assault. Many had great difficulty just making it to class each day.

- Learning, performance, and application outside of school is not possible if students cannot meet the first success indicator for learning, which is being ready to learn.

Resources and Equity

- Nonschool factors become extremely important to recognize, and address, when teaching in schools anywhere around the world. The most stable indicator of education success is family background and student socioeconomic status (SES). Students of higher SES

perform better in school not simply because they have the resources, but because they have opportunities to learn, and they align with the preferred school culture.

- Equity is a second key feature of successful education—it is about what is fair, not about what is equal. Consider the community context example of the school in South Africa. Part of the reason why nonschool factors prevented the success of the middle-class students, as well as that of the students coming out of poverty, was that there was no way to provide an equitable education to these two populations of students.

- The children coming out of the squatter camps could not be ready or prepared for school at the same level as the middle-class students, and making that adjustment was too great for the school and teachers to accomplish alone.

Suggested Reading

Byun, "Shadow Education and Academic Success in Republic of Korea."

Sellar and Lingard, "Looking East."

Wiseman, ed., *International Educational Innovation and Public Sector Entrepreneurship*.

Questions to Consider

1. What does "successful" education worldwide look like, and how can it be achieved?

2. What does educational success look like in different countries, cultures, and systems around the world?

3. How can we understand differences in educational success by culture and context?

4. How many forms of success are there in education worldwide?

5. What distinguishes successful teaching from unsuccessful teaching? How does the answer change by country, culture, and context?

6. What distinguishes successful learning from unsuccessful learning? How does the answer change by country, culture, and context?

How to Fix Education: Heart, Head, Hands

Lecture 24

In this concluding lecture, we'll focus on these reminders: When someone asks you how to fix education, remember what goes into every unique education moment. Remember to account for school and nonschool factors. Remember to consider the existing infrastructure, capacity needs, and capacity building, and whether the fix will be sustainable. What's more, remember to think about how to change education in ways that involve the heart, head, and hands. If you can accomplish these goals, you will be on the right track to fixing your schools in a way that is meaningful—and fits the context. As Nelson Mandela said, "Education is the most powerful weapon which you can use to change the world."

Monastic Schools in Myanmar

- A case in point for fixing schools and education can be found in the small Southeast Asian country of Myanmar, formerly known as Burma. The teacher-training program in monastic schools in Myanmar is a classic example of how to integrate infrastructure, capacity building, and sustainability, all within the confines of a country's history, cultural context, and customs.

- Supporting and advising the monastic schools in Myanmar is the American Friends Service Committee in Southeast Asia, a Quaker organization that advocates for social justice and peace around the world. Buddhist monks in Myanmar began establishing schools at their monasteries some time ago as a way to develop democracy, and to make up for the particularly poor quality of government-provided education in that country.

- These monastic schools in Myanmar are not religious institutions. They are simply schools that are located in monasteries, and run mostly by volunteer teachers. The American Friends Service Committee is working with these largely untrained teachers to develop a sustainable, and self-directed, teacher-training program.

"Heart, Head, and Hands"

- According to a representative of the American Friends Service Committee, the approach to improving teacher outcomes in monastic schools in Myanmar is one of "heart, head, and hands."

- The "heart" aspect focuses on developing the teachers' self-awareness. Consciousness training, mindfulness, and self-awareness are all traditions in Buddhist thought and practice, which are predominant in Myanmar today. Self-awareness empowers the teachers by helping them think deeply about what they do; the schools then provide the teachers with the tools to use this self-awareness to move ahead with their professional development.

- Importantly, the monastic schools are paying attention to nonschool factors first. They are recognizing the aspects they cannot change—and that are embedded in society—and using that context, and those factors, to support education reform.

- The "head" element of teacher development in these monastic schools involves building a knowledge base. Specifically, the schools are working on ways to get teachers the knowledge and skills they need to improve their pedagogy.

- This part of the training is about school factors. In other words, training to create more effective and better teachers is something that can be adjusted and learned; it is also something that is not necessarily unique to Myanmar or monastic schools.

The goal is to change education in ways that involve the heart, head, and hands.

- The "hands" aspect has to do with teachers implementing what they learn, and doing so in ways that make the most sense for their own schools and students. In Myanmar, the education fix is sustainable because it makes use of what is already there to empower the teachers themselves, and the process is driven by local decisions and activities, rather than by external sources.

Imposition, Invitation, and Innovation

- More broadly speaking, change occurs in education in three main ways:
  - "Imposition" is a way to impose a particular education model, activity, or approach. Imposition is typically used as a control over education, sometimes extending to education content, resources, and policy itself.

  - "Invitation" means that successful education models or approaches are borrowed (or copied) from others by a school, district, or country.

  - "Innovation" is a creative process that is solutions-oriented and involves risk—much like entrepreneurship. Innovation combines current education practices and policies with new ones to find original solutions.

Saudi Arabia—Imposition and Invitation in Concert

- As we study how imposition, invitation, and innovation can work to change, or "fix," education worldwide, consider the example of Saudi Arabia.

- Saudi Arabia's participation in the Trends in International Mathematics and Science Study (TIMSS) is a mix of both imposition and invitation. While Saudis voluntarily participate in TIMSS, the rationale for doing so came from mounting external pressure to perform some sort of external validation of their education system. These external pressures ultimately led to internal legitimacy-seeking measures by Saudi policymakers.

- There is still a lack of buy-in by the Saudis in relation to their participation in TIMSS. To date, Saudi test results in TIMSS assessments in 2003, 2007, and 2011 have barely had a ripple effect on informing its education policy and decision making. Yet, national decision makers continue to recommend that the nation's students participate in the TIMSS assessments, cycle after cycle.

- Imposition and invitation can occur in concert. However, in the Saudi example, neither approach considered the existing education system's infrastructure, capacity, or sustainability; nor did the approaches incorporate the concept of self-awareness, which would have empowered Saudi policymakers to make informed decisions. While invitation is often the first step in borrowing a particular idea about education, it is not always successful.

Tatweer Education Development Project

- An example of invitation is Saudi Arabia's introduction of tightly coupled management techniques into education reform. These are techniques that arise from a school of thought to modernize government policies and the public sector known as "New Public Management."

- The King Abdullah education development project in Saudi Arabia—also called *Tatweer*, which means "development" in Arabic—is an example of how ideas and expectations about education that are completely foreign to the Saudi context are nevertheless being invited into the Saudi system of education.

- The Tatweer project is associated with a public holding company that gives a market orientation to the education reforms it is trying to implement. This is a classic example of so-called New Public Management techniques, which try to use private-sector management approaches in traditional public-sector situations.

- Tatweer, however, is such a radical departure in Saudi Arabia that it is not as tight a fit with the education system there as some had hoped. While inviting new models and approaches can be

a way to jump-start improvements, invitation can also lead to mismatches in culture and expectations as well as infrastructure, capacity, and the "heart" approach to adopting and implementing sustainable reforms.

Innovation in the Gulf States

- Evidence from TIMSS suggests that the Gulf states are imposing global education community frameworks on their students. Qatar and Oman have proved to be particularly ambitious in their willingness to innovate in the classroom.

- In these cultures, using group work in education is considered innovative, because it carries risk with it. Education that does not take the form of traditional lecture-style instruction is considered risky because it turns over to the students some of the control of the teaching and learning in a classroom.

- The Gulf states are embracing the global education community more than some of their more traditional Arab neighbors. And they are doing so in spite of continuing low marks on the standardized international assessments, as well as some lingering cultural resistance to Western norms and conventions.

- This is a significant development because it suggests that the Gulf states are particularly adept at incorporating otherwise foreign, or new, ideas and processes into their own systems. It also suggests that the Gulf states are poised to compete better between nations and internationally, as a result of their involvement in the global education community.

Alignment of School and Nonschool Factors

- Balancing local culture and global discourse about education is the key factor shared across imposition, invitation, and innovation. Imposition can happen both across institutions and systems as well as within systems. Invitation might be as much about legitimacy

seeking as it is about determining best practices. Innovation can be unequal because some are able to bear the risk of innovating better than others.

- Harnessing these three methods of change—imposition, invitation, and innovation—is how we fix our schools, and it is best done through the alignment of school and nonschool factors.

- From a practical standpoint, the factors to align are infrastructure, capacity, and sustainable practices. From a strategic standpoint, the factors to align address the heart (empowerment), head (knowledge and skills), and hands (implementation).

Crucial Importance of Context

- While all education is context specific, education is also structured in much the same way worldwide. The differences and opportunities for each system are therefore a product of the context and culture outside of school and the structure and content inside of school. As an illustration of the crucial importance of context, consider this example from the Japanese public school system.

- An American teacher working in Japan was asked to play host to a visiting American teacher; they visited a local primary school to observe. When they arrived at the school, the children were noisily playing with toys, and talking loudly to each other. Their Japanese teacher did nothing to stop the children from being so loud and disruptive. The visiting guest from America commented that it seemed as if this Japanese teacher did not have a very good grasp of classroom management.

- The host teacher, who was much more familiar with Japanese customs and mores, thought, “She doesn’t get it”—that is, she did not understand the context of these students within the Japanese education system and culture more broadly.

- The Japanese approach to early and elementary education is one in which the students' personal development is just as important as their academic development; and in fact, they are deemed to be the same in many ways.

- What the visiting American teacher did not understand was that the unruliness of this classroom was the way the Japanese teacher allowed young children to develop their own sense of expression and creativity. Sadly, by the time the students hit junior high school, and started preparing for the endless examinations, there would be little time for play.

- Knowing how the world learns is a stepping-stone to understanding how students learn, teachers teach, and education systems function in the best (and worst) ways. As we consider the way the world learns, however, the focus should not be on "fixing" what is wrong with education. Rather, it should be about understanding the unique conditions and factors that allow education systems around the world to display comparable structural characteristics and share similar norms and values.

Suggested Reading

Bornstein, *How to Change the World*.

Darling-Hammond, "Two Futures of Educational Reform."

Wiseman, "The Institutionalization of a Global Educational Community."

Questions to Consider

1. How do we fix our schools?

2. How does change occur in education around the world?

3. Why is fixing education so important to social, political, and economic reform?

4. How is knowing about school and nonschool factors helpful in changing/reforming education worldwide?

5. What do the approaches of imposition, invitation, and innovation have to do with educational change worldwide?

6. How can a heart, head, and hands model of educational change be sustainable?

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