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Layers of Influence in Educational Reform: A Comparison between China and Europe

Alysha Marie Lascano Messmer
USF - MAIS, alysha.messmer@gmail.com

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Running head: LAYERS OF INFLUENCE IN EDUCATIONAL REFORM

University of San Francisco

Layers of Influence in Educational Reform:
A Comparison between China and Europe

A Thesis Presented to
The Faculty of the College of Arts and Sciences
Master's Program in International Studies

In Partial Fulfillment
Of the Requirements for the Degree
Master of Arts in International Studies

by
Alysha Lascano Messmer
December 2011

Layers of Influence in Educational Reform:
A Comparison between China and Europe

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Alysha Lascano Messmer
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Under the guidance and approval of the committee, and approval by all the members, this thesis has been accepted in partial fulfillment of the requirements for the degree

Approved:

Thesis Advisor

Date

Academic Director

Date

Dean of Arts and Sciences

Date

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Layers of Influence in Educational Reform: A Comparison between China and Europe

Introduction

I began this project worried that states no longer contributed to the direction of educational reform. I thought I would find that global economic forces, the integration of labor markets and the statistical assessment of these relationships were determining the direction of reform. What I found was that national models of education, institutional structures, and their supporting political ideologies still greatly influenced policy. Nevertheless, it is still important to consider the pressure exuded by the integration of the global labor force. My research revealed that different states translated global labor market pressures into educational reform according to long standing state ideas about the role of education and the influence of state institutions. In other words, both institutions and state ideologies still matter, but need to be viewed as influenced by increasingly common technocratic and external economic pressures.

Traditionally, state ideas about the role of education and state institutions were believed to have influenced educational reform in isolation. Scholars argued that education was the primary means of socializing a population to develop common values. These values would create social stability, support governing structures, and reinforce political ideologies by disseminating state ideas through schools. This is reflected in Mao Tse-tung and the Communist leadership's ideas about the role of education in China through the end of the Cultural Revolution¹ in 1976. Mao viewed education as a tool to explain to "the masses" the national goal of a collective transition to a Communist

¹ The Cultural Revolution was an attempt to remove any traces of Capitalist ideologies from Chinese society in large part through the role of education in disseminating the political ideology of Communism and converging state goals with the interests and needs of the masses.

society. To accomplish this goal, the state established universal primary education to break the hold of the ruling class and abolish the “three major differences’ between town and country, worker and peasant, and mental and manual labor (Robinson as cited in S. Kwong, 1974). They also built a vocational school system to educate a new ruling class to be composed of workers and farmers, reinforcing state ideologies of equality. In comparison, the public education system in France shares a universal curriculum and evaluation requirements to ensure that graduates are well versed in French history and, both writing and oral expressions of knowledge would be easily identified as a product of French schooling. Therefore, the French education system is an ideological reflection of state goals to protect and promote cultural heritage.

It is insufficient to view state ideologies in the development of national models of education in isolation, because economic growth has always had an important influence on educational reform and has been recognized by states as imperative to the contribution of public education to society. As global economies integrated and labor forces competed on an international level, the role of education grew to include sustaining economic growth and industrialization through the development of an educated and technically qualified workforce.

This led many to argue that global economic forces exerted a dominant pressure on educational reform. States responded to the integration of labor markets through policies aimed at transforming school systems. This meant that reforms were primarily influenced by external economic pressures. Under Mao, universal education and vocational training were methods to disseminate state ideologies about the necessary transition to Communism. When the Cultural Revolution ended in 1976, the focus of the

state shifted from alleviating class struggles to supporting the process of rapid industrialization central to an emerging socialist market economy (Wan, 1998). This required the industrialization of both the population and the means of production which rebranded education as a tool to create a skilled workforce. In Europe, the protection of cultural heritage was overshadowed by the infrastructural and economic destruction left behind by both WWI and WWII. States responded to external pressures to integrate into the global labor market by unifying European labor and capital markets. The field of the economics of education was developing as states needed to rebuild and restart their economies. These scholars argued that schooling was central to developing a national labor force strong enough to compete internationally for resources and capital.

Yet, the role of school in sustaining economic growth through labor force development also cannot be viewed as influencing educational reform in isolation. Education's role in creating social stability and upholding political ideologies still influenced policy. China never relinquished state desires to create social stability. Maoist ideals aimed at universalizing state goals were still present and were focused on developing a harmonious socialist society through education. Europe safeguarded educational institutions from market based and unifying reforms to protect their role in preserving national cultural heritages. Social and political ideologies were incorporated into educational reforms that focused on popularizing education to create social stability and building a national labor force.

The economic role of education experienced a resurgence with the emergence of the technocratic view of education. Evolving from political and educational economics, scholars in this field argued that the conclusions drawn from statistical assessments of the

education system should be used as a guiding principle in the development of reforms. They proposed that economic studies of education had two purposes. First, they could measure the effectiveness of reforms both in maintaining the international competitiveness of the labor force through area-of-study specific knowledge assessments and, in creating social stability through the effects of schooling on income differentials. Second, the assessment of existing relationships and statistical measurements of the quality of the labor force could be used to identify areas of weakness and encourage states to focus on underperforming groups, increasing their overall skill level and contribution to economic growth. China's ban on assessments and entrance examinations imposed during the Cultural Revolution was overturned during the period of industrialization because the quality of education had suffered from supporting political ideologies over instruction. As an industrializing economy, China needed a high quality of instruction to develop graduates with the necessary skills to support emerging industries. In Europe, state economies were experiencing uneven economic growth even though the larger unified market was intended to support universal development. This suggested that industries operating without restriction on the movement of capital and goods were not supported by the free movement of human capital. Measurements of growth differentials led to educational reforms aimed at converging graduation requirements and qualifications across national public school systems. This in theory, would increase the movement and comparability of new graduates, making them more marketable abroad.

The influence of statistical assessments on educational reform also cannot be viewed in isolation of external economic pressures, state ideas about social stability or,

political ideologies that uphold long standing institutions. Data collection reflects political ideologies and nationalistic goals through the selection of measurements. Enabled by the standardization used in data analysis, the technical framework placed around underperforming population subgroups redefined the resultant inequalities as functional gaps. These gaps provided the state with opportunities to interject its influence and uphold institutional power. Educational reforms integrated the solutions developed by data analysis, reinforcing state ideas about the role of education in creating social stability and economic growth as well as political ideologies that supported governing structures. In China, the state redefined its goals for vocational schools. During the Cultural Revolution, the schools were intended to educate the next round of leadership chosen from the peasant population. Under the pressure of industrialization, they were considered an effective means of developing a skilled labor force across regions with varied levels of economic development. What vocational schools still embodied was the Communist ideal of integrating labor in schools to actively reinforce principles and skills learned in the classroom (Snow as cited in S. Kwong, 1974). This encouraged relationships between school and industry and even the development of school operated businesses. In Europe, studies measured the number of students that were educated and worked outside their country of origin to represent the effectiveness of policies aimed at enhancing student and labor mobility. Inadequate results encouraged Education Ministers to continue in their process of reforming higher education but only outside the legal framework that protected the autonomy of institutions supporting cultural preservation. This reinforced political and social ideologies in developing national models of education.

Social and political ideologies, external economic pressure from an integrating labor market, and the technocratic characteristics of the analysis that produced the common steps taken to develop the national labor force, all influence educational reform not in isolation, but in their interaction with each other and long standing state institutions.

Literature Review

The nation-state and public education systems have developed hand in hand. State ideas about the role of education and the development of their national models were influenced by ideas about social stability, citizenship and economic growth.

I begin by briefly discussing how states with different governing structures have developed similar understandings about the role of education in society. These common understandings generate influences that helped develop national models of education. Existing literature divides these influences into two groups: state ideologies about the political and social value of education, and the role of schools in creating national economic growth. Ideologies of social stability, common to all states in their influence on educational reform, created a link between these two groups of literature.

As the economics of education developed in the mid twentieth century, statistical studies aimed to quantify the value of education to society by isolating its contributions to labor force development and national growth. Quantitative studies focused on how to develop human capital through the access to and quality of schooling. The link human capital theory drew between income, as a measurement of economic productivity, and educational attainment redefined state goals for education by predicting that changes to school systems would have a significant impact on growth.

Education was then viewed as an investment, and investments demanded that returns were quantifiable to efficiently allocate resources. Measurements taken to quantify returns also highlighted the inequalities between population groups which were redefined as technical problems. These gaps created spaces for the state to intervene in education and reinforce state ideologies of social stability and national economic growth.

Critics of the economics of education argue that the technocratic approach of isolating factors, for the purpose of measurement and analysis, standardizes complex interactions between contributing factors in educational reform and reinforces state ideologies and institutional structures. This narrow quantitative lens provides an incomplete analysis of why different states have different educational reforms even though they share common influences. I hope to contribute to the literature by demonstrating that educational economics, combined with state ideas about the role of education, state institutions and global labor market influences create a set of factors influencing educational reform that should be analyzed in their interaction, not in isolation.

Public Education and Nation Building

Scholars, activists and politicians have been talking about how education has played a role in national development for centuries. An in depth review of historic scholars is unnecessary, but a brief discussion of the evolution of social, political and economic influences on educational reform, corresponding to political developments within the state, provides the background that establishes their historical and modern importance, particularly in their influence on state programs for social stability.

Traditionally, school was considered a tool to create common values that supported governing structures. A common set of values could produce social cohesion through aligning interests across class and background. The role of school in upholding the value of governing structures is often linked to the influence of education in creating democracy. Thomas Jefferson, and later, John Stuart Mill, argued that education would

ensure that citizens were less susceptible to political tyranny by making thoughtful decisions under a common set of values while working toward democratic political goals (Tozer, Violas & Senese, 1995) and that “a more educated population increased the accountability of the political powers, promoting a better convergence of interests between the rulers and the ruled” (Mill as cited in Teixeira, 2006, p. 4) 1944, p.23).

This is similar to the influence of education on the transition to Communism. In China, Maoist theory of social change states that the government should align the interests of “the masses” with the requirements of becoming a Communist society through a popularized school system, creating a common set of values between the state and its population (Mao as cited in S. Kwong, 1974).

Social stability in socialist and democratic nations was being challenged as populations became more diverse through colonialization, industrialization, immigration and migration. Just as school was used to create common values between a government and its citizens, state ideologies of social stability encouraged the use of education as a means to create common values between citizens to assimilate them into their new social and economic situations. Horace Mann, an education reform advocate in the early nineteenth century, suggested that public education should be used to assimilate new immigrants into a homogenous community (Mann as cited in Dewey, 1959). Maoist principles suggest that the expansion of the public school system helped integrate rural and illiterate populations,² with the educated elites, building a unified community by increasing the representation of underprivileged population groups in state leadership (S. Kwong, 1974). The development of a singular community through common culture and

² In 1949, 80% of the population was estimated to be illiterate (S. Kwong, 1974)

education was considered an essential factor in achieving social stability across varied political ideologies.

Social stability also had an economic component as industrialization redefined an individual's value to society. Contributions to economic growth were recognized through the dispersion of wages which created large income differentials between groups of citizens. Adam Smith argued that education could shape human behavior and capitalize on the differences between people in order to develop individual roles in society and the economy. The economy would also compensate individuals for their formal years of schooling through wages, developing incentives to pursue individual talents to the fullest (as cited in Teixeira, 2006, p. 2). Political economics measured the relationship between schooling and labor force development and Smith, as a contributor to the burgeoning field of political economy, drew connections between wages and education.

Industrialization increased the importance of developing a national labor force to economic growth. Modes of production required skilled labor, and education was considered a tool to train workers. By training workers to be functional participants in the industrial process, “the benefits of education were also observable in economic terms” (Mill as cited in Teixeira, 2006, p. 4). Education became viewed as an investment (Mill as cited in Teixeira, 2006) in the future economic production of the national economy and hence a significant driver of economic progress (A. Marshall as cited in Teixeira, 2006). Even training that focused on character, intelligence and adaptability would make individuals better participants, producers and consumers in the market economy (A. Marshall, 1919).

T. H. Marshall, a British sociologist, linked the social, political and economic influences on state ideas about the role of education by tracing their evolution with the development of citizenship. He argued that in democratic societies, social rights developed from economic rights in an attempt to reduce income differentials that were challenging social stability. As collective bargaining failed in improving working conditions and wage inequalities, the government intervened to universally extend social services, such as education, to citizens to stabilize relations between socioeconomic classes. Deng Xiaoping, the leader of the Communist Party of China after the Cultural Revolution ended, also drew a strong connection between the contributing influences on state ideas about the role of education. He emphasized that social stability relies on a popularized school system that could prepare all citizens for integration into an industrialized workforce and economy while redistributing state resources to less developed regions (Xu, Li, Wu & Huang, 2010).

In sum, states created goals for education to promote social stability by encouraging equality in access to schooling and emphasizing the role of education in developing individual skill sets and improving the national labor force.

Education and Political Economy

First, political economists emphasized the value of education to national growth. Next, the economics of education reframed how the contributions of school to society were defined and analyzed. Statistical studies overtook the literature on school in society. “Education was being integrated in growth models, and concentrated much attention in terms of empirical measurement of the sources of growth; it was also becoming a priority

for the less-developed parts of the world, especially with the first signs of government withdrawal from direct economic intervention” (Teixeira, 2007, pps. 24-25). The role of the labor force in maintaining international competitiveness in an integrating global economy demonstrates that there is a common thread running through the factors influencing educational reform. Economic growth had both domestic and international components.

The economics of education also developed human capital theory which “suggests that education or training raises the productivity of workers by imparting useful knowledge and skills, hence raising workers’ future income by increasing their lifetime earnings” (Becker as cited in Xiao, 2001). This influenced state ideas about the role of education by linking school and growth both in explanatory and predictive economic models, and also through the quantification of the value of education to national growth and private industry.

The field of educational economics was developed in the late 1950s by a group of labor and growth economists focused on understanding the contribution the composition and the quality of the labor force had on national growth (Blaug, 1968). Traditional economic scholarship focused on “current wages and salaries in their studies of the operations of a labour market, rather than expectations of lifetime earnings” (Blaug, 1968, p, 7). Economic studies of education revealed that lifetime earning potential measured an individual’s contribution to national growth. A person’s lifetime earnings potential was correlated with educational attainment. Therefore, creating and sustaining growth was heavily influenced by education and the quality of the labor force. States, economists argued, should therefore expand and popularize education with “specific

economic targets and objectives” (Blaug, 1968, p. 7) and use schooling as a tool for investment in human capital (Blaug, 1968).

Theodore W. Schultz, a professor of economics at the University of Chicago and the president of the American Economic Association, is credited with expanding the popularity of the field of the economics of education in 1960 by highlighting that “widely different observed economic phenomena could be rendered intelligible by the idea of human capital formation. The result was a sudden acceleration of research in this area and a sudden proliferation of publications concerned with the economic value of education” (Blaug, 1968, p. 11).

Data on growth, wages, educational attainment and labor force composition was incomplete and not centrally collected or organized. Attempts by educational economists to evaluate the role of education in the development of the labor force and its impact on national growth were limited by insufficient statistical information. The quantitative field of economics was relatively new and most notably dominated by the National Bureau of Economic Research³ (NBER) in the United States. This organization’s goal was to advance the scientific method in economic research, publishing statistical studies and obtaining objective knowledge that could be used to solve social and economic problems (Fabricant, 1984). Coupled with the technical revolutions that allowed for the storage and dissemination of data after WWII, not only was more data available to a larger audience but bureaus could expand the amount of information captured.

³ The NBER was founded in 1920 with the mission to better understand how the economy works. “Over the years the NBER’s research agenda has encompassed a wide variety of issues that confront our society. Early research focused on the aggregate economy, examining in detail the business cycle and long-term economic growth. Simon Kuznets’ pioneering work on national income accounting, Wesley Mitchell’s influential study of the business cycle, and Milton Friedman’s research on the demand for money and the determinants of consumer spending were among the early studies done at the NBER” (Fabricant, 1984).

The emerging economics of education and the links drawn between income differentials and education took advantage of this increase in data by having education level and wage data captured by the 1940 census and expanding the survey in the 1950 census (Teixiera, 2007). Jacob Mincer,⁴ recognized as the founder of modern labor economics, took full advantage of this new breadth of data in finishing his doctorate at Columbia University where the NBER was closely affiliated.

Prior to Mincer, the links made between income differentials and economic growth were still purely explanatory and lacked the authority to be used in growth and policy recommendations because they did not create forecasts. One of Mincer's greatest contributions to education and labor studies was his demand that these models hold predictive power. Economic studies that could create market forecasts could help policy makers determine fields that would drive future economic growth, and theoretically adjusting educational funds to areas that would meet future economic needs (Parnes, 1968). They argued educational funding could increase the possibility of sustained economic growth, increasing a country's international competitive edge. Technocratic and predictive models became the cornerstone for the use of scientific studies in policy making. They resulted in a transformation of the role of educational economics. They could influence policy creation by framing relationships between growth, education and labor markets as technical, which allowed legislatures to develop technical reforms.

Mincer's contributions did not end with demanding models hold predictive power. "Mincer would transform the role of education in personal income by turning this causality link into a generalized explanation for income distribution" (Teixiera, 2007, p.

⁴ A Polish born WWII prison camp survivor immigrated to the United States to complete his doctorate work in labor economics at Columbia University and later the University of Chicago

28). This transformation has a couple of important components. There was the individual component that considered education as a way to increase personal wealth, as well as the national component regarding education as an engine for economic growth. Brunsman (1953), Friedman & Kuznets (1945), Hoyt, Reid, McConnell & Hooks (1954), and others made significant strides in the idea that marked the 1950s. They argued that additional training was a valuable tool to increasing individual income (Teixiera, 2007, p 28).

If individual income could be changed by access to educational opportunities, then the pressing need to redistribute income in the post WWII era in order to positively impact social stability, could be solved by changing access to education. Also, education was a stabilizing force during the process of industrialization by allowing all citizens to participate in the developing labor market. Collective economic growth could follow by marginally increasing the income per individual through training and educational opportunities. A better educated populace creates a stronger labor force and more stable political system through unifying cultural values. Improving human capital, best developed through education, became central to sustained economic growth.

Educational economists concluded that educational reform was central to successful growth policies and human capital was integral in the development of Western economies (Schultz as cited in Teixeira, 2007 p. 25). Chinese nationals educated abroad brought these ideas back home and integrated them into educational reform under the Communist leadership of Mao by influencing the development of the multi-tracked school system, and later by reintroducing testing and entrance examinations to create a selective system aiming for equality through universal access to opportunities (S. Kowng, 1974).

The development of the study of human capital had two major effects. First, it institutionalized domestic and global labor market influences into education by legitimating schools as tools to train the labor force and make it more competitive. This would also industrialize and prepare a workforce for integration into the global market. Second, it solidified the role of education in state growth models by linking educational attainment to increased lifetime earnings potential. Improving schools became a technical solution to slow or inadequate growth.

Ideological and quantitative links were made between social stability and the development of “human capital” or a national labor force. The expansion of data collection and increased access to data sets influenced the direction of literature toward quantifying the value of education to society.

Determining how education impacted society in conjunction with state ideas about the role of public education allowed for reforms to uphold state goals for the contribution of school to social stability and economic growth. The idea of education as a pure public service was breaking down. No longer was it viewed as a service rendered by the government to benefit public interests in creating social stability. Its ties to human capital and labor force development assured that it would always be associated with economic growth.

As a public service, the government was expected to fund education in entirety with tax revenues and federal funds but as an influence on growth, costs could be redistributed to include all those who benefited. The popularization of education placed a heavy burden on state budgets. Public education systems needed a way to manage and distribute the cost burden of educating a population. As an investment in labor force

development and national growth, the benefits moved beyond the public sector and were associated with increased industry profits, production and international competitiveness (Arrow & Capron, 1968; Hansen, 1968; Nelson & Phelps, 1966; Parnes, 1968).

Under this framework, governments could defer the costs of education to private individuals since private markets, individuals and families all benefited from increased educational attainment. If education is truly an investment (Mill, 1965) then those who gain should share a part of the cost burden. In Horace Mann's attempt to strengthen support for universal public education, he gained the backing of industry by demonstrating their stake in the universality and quality of education. He convinced parents and industry that better quality and increased duration of education would allow students more upward mobility and business access to better workers. Deng Xiaoping also attempted to appeal to both individuals and industry by creating curriculums that reflected the needs of an emerging market and ensured every graduate would be qualified to participate in the labor force, presumably ensuring universal industrialization. By aligning the goals of school and industry, Deng expected that businesses and individuals would contribute to the cost of funding education. The social and political value of education drove governments to attempt to educate the masses as a public service, but the cost burden of running a public school system encouraged studies into who and what was benefiting from more educated citizens.

Quantifying returns on educational investments helped states reevaluate how they financed public education and whether social equality was necessary in the economic goal of providing universal access to education or whether social inequalities could be beneficial to the market in determining the allocation of school resources. Under the free

market system that valued education in its contribution to the development of the labor force, having each child receive an equal education, in subject, duration and quality, was an inefficient allocation of investments in the educational system. The costs would exceed the economic benefit. This rationale explained why inequalities were still present despite rounds of reform to popularize education. From the standpoint of education's contribution to growth, structural and social inequalities need not be alleviated. State ideas of social stability supported equality in access to schooling not the equality of education which would be expensive and inefficient.

Neoclassical economists often subscribe to a utilitarian or research based⁵ model of education (Kahne, 1996) (otherwise referred to as vocational training). Vocational training institutions upheld an uneven distribution of resources and reinforced structural inequalities (Parnes, 1968; Hoyt et al., 1954) by only allocating enough resources to individuals and groups to allow them to reach their maximum potential within the confines of the opportunities available to them (Parnes, 1968). The market demanded a diverse workforce. As a contributor to growth, the market supported the division of students by productive potential in order to efficiently allocate educational resources (Bacon in Kerr, 2001; Parnes, 1968). Equal access to schooling to increased potential lifetime earnings and overshadowed the idea of providing an equal education to all citizens. For example, the traditional socialist ideal of equality, upheld by the Marxist tradition of ensuring that a whole nation rises together through equal social, economic and political development (S. Kwong, 1974), accepted that in an industrial and modern society the education received did not need to be equal, as long as there was access to a

⁵ Kerr (2001, p. 144) refers to this as the German education model of vocational training

minimum level education in order to establish common cultural and political values. This idea of equality helped detach economic needs from political and social ideologies.

The same effort to measure returns on educational investment redefined social problems as technical, opening them to solutions focused on minimizing statistical differences between groups and individuals. Quantifying social problems presumably transformed them into objective and technical problems, instead of subjective interpretations of situations. For instance, Schultz argued that minorities earned less than their counterparts of the dominant race because they, on average, completed less schooling (Schultz, 1968). Reframed as technical problems, the inequalities between groups could be redefined as functional gaps (Ferguson, 1992; Foucault, 1994). As functional gaps, they need not be eliminated and provided an entry point for the state to interject their goals for education and ideas about the role of schools in developing the national labor force.

The direction of literature shifted further in the technocratic direction with its attempt to capture the effect of structural inequalities and unequal access to education on the affected individuals and groups. These studies evaluated transition economies (Beirne & Campos, 2007; Campos & Jolliffe, 2007; Zhang, Cooper, Deng, Parker & Ruefli, 2010) and specific subgroups of the populations that are considered structurally disadvantaged (Liu, 1998; Mincer & Ofek, 1982; Patrinos & Sakellariou, 2005; Schultz, 1975). They aimed to find if and how these groups benefited from increased education both economically and socially. Through the analysis of the decisions made on schooling, starting a family and career paths, these studies showed that educational reform was the most effective in minimizing inequalities when it targeted specific subgroups of the

population. Policies aimed at increasing educational attainment of specific underprivileged groups resulted in improved lifetime earning potential and less economic setbacks such as unplanned or teen pregnancies (McMahon, 2006; Schultz, 1975). More importantly, these studies justified the use of gaps as intervention points into the educational system. This group of literature did not directly question whether inequalities destabilized relationships between groups but rather exposed that the gaps between groups, unveiled through measurement, provided opportunities for states to influence how education served the needs of the labor market and economic growth.

Critiques of Economics

Critiques of educational economics and the technocratic approach to creating reforms are focused on the standardizing effect of measurements on complex situations and the incomplete picture the analysis produces because of the exclusionary nature of standardization. The reduction of complex social and political realities through the standardizing effect of measurements is an attempt to make the diverse uniform (Scott, 1998; Foucault, 1994). Uniformity allowed for comparisons to be made between previously diverse influences on educational reform creating commonalities across markets and countries. As I discuss in my argument, these commonalities are factors in the layers influencing the development of state specific educational reforms.

Statistical analysis of educational reforms requires large and diverse data sets. State and other government and government funded organizations, such as the World Bank (WB) and International Monetary Fund (IMF), have the largest collections of data. Because governments influence the collection and organization of data, state ideas about

the role of education are reflected in the data itself (Scott, 1998). “[M]easurements are decidedly *local, interested, contextual and historically specific* (author’s emphasis)” (Scott, 1998, p. 27). The standardization of data removes local contextual history and the removal of context and the selection of phenomenon to be measured creates data that is highly political, reflecting and reinforcing state ideologies.

This scientific method of evaluation is presented as neutral but the collection and use of data is influenced by political ideologies about what is important to measure. For example, data on income inequalities reflects state ideas about the potential effectiveness of socialist policies of wealth distribution. Science also suggests that data is a factual representation of reality. The technical nature of the data ensures that it can only be evaluated by experts (Beck, 1992). Both of these problems contribute to data being regarded as fact when what data actually provides is a standardized and incomplete representation of local realities. Data and standardization are important to comparative frameworks (Foucault, 1994) and redefining social problems as technical (Ferguson, 1992), but it is exclusionary and struggles to measure the effects of multiple, interconnected variables (Scott, 1998, p. 290).

Measurements include random quantities that are regarded as unimportant. Standardization does not erase them but labels them as “noise”, so they can be excluded and explained out of any impact they may have on conclusions. Larger data sets used in the analysis of narrowly defined causal relationships, such as between school and earnings, contain significant amounts of “noise”. Excluding “noise” creates new problem when it omits measurements “of explanatory variables that affect both factors” (Angrist & Krueger, 2001, pps. 71-72).

“Noise” in data is not always excluded but sometimes explained as an external influence on the variable, or as an externality (McMahon, 2006; Johnes, 1993) whose effects could not be measured due to a lack of data. According to Albert Marshall (1961), schooling, and in particular universities, provided social benefits that could not be priced. These benefits were linked to private individuals and organizations and were assigned value by estimating private returns on education (Teixeira, 2006). For Marshall, the challenge of quantifying returns for cost sharing purposes was not simple but rather had the complexity of positive externalities. As data and measurement techniques improved, econometric studies recognized the influence of externalities on results, but were still unable to quantify their effect.

Studies looking at the role of education as a factor in endogenous growth also recognized the value of measuring externalities. Endogenous growth studies acknowledge the complex nature of the relationships between multiple and interacting variables but still try to quantify their influence, falling into the same technocratic trap. For example, a study on endogenous growth and schooling concluded that “the role of externalities from higher levels of human capital” (Hanushek & Kimko, 2000, p.1204) increases annual real growth rates as opposed to higher quality human capital measured by math and science scores which represents duration and quality of schooling.

These studies also show that variables have reciprocal relationships, further complicating the ability of researchers to isolate and measure the effects of a single variable. In a study on growth and education, the authors concluded that school only accounted for a third of growth but growth also accounted for a third of the increased demand for education (Bils & Klenow, 2000). Neither of these variables operates in

isolation of the other. This area of research shows that isolating variables to determine their influence on education produced an incomplete picture. This did not preclude their analysis from being interesting and influential, but it was incomplete with respect to understanding how factors interact with each other and long standing state institutions to produce educational reforms.

Critics of qualitative data analysis of social issues are not just concerned with the political component of data collection and its exclusionary nature, but also with the use of the data sets to standardize complex situations in order to compare diverse systems and establish common influences from which they aim to develop technical solutions. The scientification of observation and the use of measurements for evaluation in the field of the economics of education created a comparative system by aggregating diverse data into “a single statistical series” (Scott, 1998, p. 27)⁶. This comparative system “made possible the measurement of overall phenomena, the description of groups, the characterization of collective facts, the calculation of the gaps between individuals, [and] their distribution in a given ‘population’”(Foucault, 1975, p. 190). The use of data and quantitative studies in educational reform allowed legislators to make comparisons and evaluations but removed data from its contextual origins (Scott, 1998). This allowed for measurable inequalities resulting from complex social and economic systems to be reduced to technical problems presumably but unsuccessfully erasing the influence of political structures (Ferguson, 1992).

Reframing complex interactions as technical, created the uniformity across markets that allowed for comparisons to be made between previously diverse influences

⁶ Bourne argued that the science of education has developed in response to the “technique of intellectual measurements” (1977, p. 197)

on educational reform. These influences include pressures from integrating and competing in a global labor market, and state ideas about how to maintain social stability without equality in education. As the earliest contributors to the literature on educational reform argued, the social stability of a population relies on the establishment of common set of values. Measurements highlight gaps between groups and can unify diverse populations through trying to close these gaps. The national goal of sustained economic growth is an example of how striving to close gaps can unify a population against an international competitor. The “global achievement gap” is the statistical difference in national growth rates attributed to a population’s average level of educational attainment and a country’s proportion of graduates with degrees in math and science. This gap, supported by cross national data comparisons, reinforces state ideologies about the role of education by producing social stability through the unification of citizens as a group against international competition and encouraging increased investment in education to produce a competitive labor force in the integrated global market.

The “global achievement gap” is not unique to a single state but a commonality that is shared across markets and countries. Commonalities produce a convergence of influences on educational reform that interact with long standing state institutions to produce divergent responses across nations.

Methods

In this thesis, I employ a comparative case study framework as a tool to reveal that a combination of factors influence educational reforms. Countries with different government structures and state institutions have similar understandings about the role of public education in creating social stability and national growth and experience common external pressures to integrate into the global market and labor force. Though there is a convergence of ideas about the role of education, its interaction with long standing state institutions produces a diversity in outcomes. The juxtaposition of countries with different political and economic infrastructures reveal that distinctive educational reforms are influenced by multiple common factors.

The analysis of the stated goals for education in a single case study would reveal that they strongly influenced educational reforms. Countries respond to their ideas about the role of education in society to create national models of education. My literature review reveals that states with various political infrastructures have developed similar ideas which include supporting governing structures, building common moral values, integrating populations for the purpose of social cohesion, making citizens more productive and economically relevant to the market, and making domestic markets and labor forces more competitive internationally. I have consolidated these into three common goals: political ideologies of social equality, economic competitiveness and social stability. A comparative case study of state-only models would show that states share common educational goals but produce divergent national models of education. This suggests that there is another layer of influence not captured by viewing a country in isolation.

State-only models are also outdated because they do not include external pressures from global economic forces influencing state ideas about how education can contribute to growth. The analysis of external pressures to integrate into the global labor market and open domestic economies to international competition would expose their strong influence on educational reforms. If these factors were to be analyzed in a single case study, you could argue that they combine to become the dominant influence on educational reform. A comparative case study reveals that similar external pressures produce various responses in different nations. This also suggests that pressure to integrate into the global labor market is just one layer of influence contributing to reforms.

To unveil all the layers of influence, I chose a comparative case study between China and Europe because they share common goals for education and have taken steps to make their economies competitive on a global scale in response to similar external pressures for integration. But in contrast, they have built different national models of education and have undertaken different sets of reforms. The reforms they made to their education systems occurred over similar timeframes but during this era, they were in different stages of economic and social development under the authority of different systems of governance. Even in different stages of economic development, both China and Europe needed investment of foreign capital and access to foreign consumer bases to sustain growth. Therefore, they both adopted free market reforms to liberalize barriers to trade and integrate with foreign markets. Because states were pressured to respond to these universal influences, a comparative framework should reveal that a combination of

the influences previously outlined work together with long standing state institutions to create the country specific educational reforms.

China is the largest country in the world. They are transitioning from a Communist government and economy to a socialist market economy and rely on manufacturing sectors for growth (China, 2011). With a large population, almost 1.34 billion, distributed geographically across 9,596,961 square kilometers, government policies must focus on supporting the economic and social needs of a population that is expanding at a rate of 0.493% (China, 2011)⁷ to maintain stability within its borders and increase its economic and political importance in the global system. China is the host of the largest domestic labor force but over sixty percent of its population lives in rural or underdeveloped areas (Wang, 2003). To integrate into the global economy and develop a competitive labor market, the government created a series of industrializing reforms that extended their influence on the education sector through the 1985 and 1993 reforms to help build a competitive national labor force.

Europe has had a long history of wars and battles that have challenged both their physical and economic security. In response, Europe made efforts to unify their markets promoting security by increasing their dependence on each other. The countries involved in the initial phases of unification were free market economies but as the Soviet Union dissolved, participating countries turned into a mix of developed free markets and developing economies transitioning from Soviet Communist governance. Today, democracy and free market capitalism are the dominant ideologies in Europe and as a region they rely upon service sectors for growth (EU, 2011). As developed market economies, European nations furthered efforts for economic unification to strengthen

⁷ In contrast, Europe is only growing at a rate of 0.098% (European Union [EU], 2011)

their regional economy in order to compete on a global level. Reforms to higher education, initiated in 1999 by the Bologna Declaration, ensued to build a labor force that could support European economic growth by producing graduates with common and comparable qualifications.

Chart A demonstrates that both China and Europe share similar goals influencing their ideas about the role of education in society, as established through my literature review, but have produced different national models of education:

Chart A Stated Goals of Education		
Goals	China	Europe
Political ideology	Social Equality - the right to a quality education that develops skills essential to participation in an industrializing society	Social Equality - the right to freely access all educational opportunities without barriers restricting movement
Economic competitiveness: national labor force needs	National economic growth and economic competitiveness - serve Socialist modernization (Ministry of Education [MoE], 1995)	Sustain growth and international competitiveness in a rapidly industrializing world
Social stability	Build a harmonious Socialist society (Xu et al., 2010)	Develop and strengthen stable, peaceful and democratic societies across Europe and develop European cultural dimensions (European Commission [EC], 2000)

Chart B demonstrates that China and Europe have exhibited divergent responses to common economic pressures:

Chart B Global Economic Forces		
External Pressures	Responses - China	Responses - Europe
Integration of global labor markets	In response to the disintegration of the Soviet Union, China undertook a series of industrializing reforms to “open-up” their economy	The need for security from war and later from economic competitors spurred measures to increase access and affordability of resources to rebuild infrastructures after the devastation from WWII
Adoption of free market reforms to attract global capital	Introduction of a system of private property rights	Creation of a single market to support the mobility of people, capital and knowledge
Open population to global competition	Promotion of entrepreneurial activities and private sector business Decreased responsibility of the state sector in terms of planning and financing	Match the mobility of labor goods and capital in education by standardizing degree requirements and structures

Chart C demonstrates that reforms to education systems have been influenced by similar ideas about the means for economic development, but responses varied in China and Europe:

Chart C Reforms to Education Systems		
Means for Economic Development	Response in China: Less Centralization	Response in Europe: More Centralization
Steps toward integrating into a global labor market	Reforms devolved governance over local education systems and made townships and schools responsible for acquiring their own funding and guaranteeing revenue streams	Centralized the reform process of higher education to fall under a single non-legal governing body
Reframing what it means to be competitive in a global labor market	Schools built relationships with industry and commercialized research	Created the European Higher Education Area (EHEA) of cooperation between nations and institutions
Preparing citizens for integration into the global labor market	The education system was structurally divided into tracks: vocational training and university	Marketed EHEA standards to other regions Tuned degree requirements with the dominant American system

Limitations exist when comparing countries and education sectors in totality. The degree to which the global labor market, national goals and state institutions influence educational reform cannot be quantified. Any attempt to quantify them would result in a narrowing of the scope of study which is what I argue should be avoided. Another limitation is that there is less direct access to legislative documents in China than in

Europe. State websites post the Constitution and recent laws but directives and programs adopted by the Chinese Communist Party (CCP) in previous decades are referred to only in their integration into current legislation. Therefore, I could not use the 1985 and 1993 reforms as primary sources and was limited to overviews of the contribution of these policies to current legislation and the analysis of other scholars. It is also important to note that the variety of evidentiary support in this thesis for China exceeds that of Europe because European nations have already integrated many of the industrializing free market reforms that China has adopted in the last forty years.

I also do not address the global economic changes that have occurred in the last five years. Without a doubt they have and will effect education due to decreased national resources and the contraction of economic growth. Changes due to the global economic downturn are affecting the global labor market and I anticipate they will influence education in the future. As these changes are occurring while I write, I want to recognize their inevitable impact and suggest the topic for future study but it will remain outside the scope of this thesis.

Case Studies

My literature review established the state goals for education as represented in Chart A in my methodology. The similar state goals for both China and Europe are the first layer of influence on educational reform. In analyzing these case studies, I reveal that national models of education upholding state ideologies combined with common external pressures to integrate in the global labor force under the influence of long standing state institutions combine to create the layers of influence that produce divergent educational reforms.

Common External Pressures: Global Labor Market Integration, Attracting Global Capital and Opening Populations to International Competition

Both state goals and national models of education are being pressured by global economic market forces. This is revealed by the universal concerns with remaining economically competitive and increasing opportunities for citizens to participate in an integrated and industrialized world. In China, the Third Plenary session of Congress in 1978, launched the program of industrialization, transforming global labor market and free market pressures into law. These reforms include “opening-up” their economy to the global market, introducing a system of private property rights and legalizing private business (Zhang et al., 2010). In Europe, multiple factors influenced the creation of a single market that removed barriers to the mobility of goods, capital and labor. External pressures to improve the regional labor market helped Education Ministers take action to initiate reforms to standardize degree requirements and structures, opening the European population to global competition.

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The integration of the global labor market is a universal influence because state goals for education include remaining economically competitive and the technical solution to sustained economic growth is the development of the national labor force; but, differing stages of development and political structures help produce a variety of responses. In response to the breakup of the Soviet Union and pressure to integrate into the global labor market, China initiated a series of industrializing reforms to open up their economy. Creating universal industrialization and state goals to promote stability through minimizing urbanizing pressures created a decentralizing pressure on educational reform. European infrastructure was heavily damaged after WWII. As a region, they needed to affordably rebuild and reestablish their economies while being assured that no single nation could gain an advantage over the others destabilizing the structured peace. As global labor markets integrated, Europe responded with reforms unifying specific sectors and later creating a single market. Both China and Europe shared in increasing investments in national education in response to its link to developing a national labor force.

Pressure to integrate into the global labor market influenced the adoption of industrializing reforms. Under Deng Xiaoping and the moderate Communist leadership⁸, China began a period of transition where power was decentralized and market oriented reforms encouraged industrialization and the development of the largest potential labor supply of any country (Deng as cited in Xu et al., 2010). The “series of reforms to China’s education system, ongoing since 1985, was stimulated by the needs of the

⁸ Many scholars cite 1976 and the takeover of the moderates in the CCP as the beginning of the industrialization of China and the catalyst that created the socialist free market economic reforms.

emerging market economy and especially the preparation of a modernised workforce” (Central Committee of the Chinese Communist Party, 1985; Henze, 1992 as cited in Liu & Dunne, 2009, p. 2). A modernized workforce is governed by the private sector and free market principles and its development is supported by state ideas about the role of education in establishing an internationally competitive labor force.

To create a workforce that would be technically unmatched in size and productive capacity, reforms needed to place more authority in the hands of local governments. China’s sheer size, diversity of terrain, and uneven development made a centralized system of planning and decision making inefficient but external pressures compelled them to increase investment in labor force creation. Industrializing reforms allowed the education sector to follow suit in later years by mapping out how local governments and industry would strengthen its ties to schools and exert its influence on the education sector.

Global labor market pressures in Europe influenced the adoption of reforms that unified markets. The initial set of factors responded to by European countries were states’ needs for physical and economic security after WWII devastated infrastructures and economies. If states were reliant upon each other and cooperatively rebuilt infrastructures, then any single country would be less able to wage war or assert its power over the other European nations. Integration started between France and Germany with the Schuman Declaration (1950). It was originally a security measure to integrate steel and coal markets ensuring that neither country had enough individual industrial capital to initiate fighting. As the Declaration was expanded to create the European Coal and Steel

Community (ECSC) in 1951 (Europa, 2010a), security was still a central theme, but so was cooperation in production to rebuild Europe and effectively use its limited resources.

The ECSC was expanded under the Treaty of Rome in 1957, to encompass more countries and integrate more markets furthering cooperation within European borders (Europa, 2010a). The Treaty of Rome created the European Economic Community (EEC) or common market which removed borders not just for goods but also for people. The goals were to create a common market and lay the groundwork for the political unification of Europe.

Limited industrial commodity cooperation expanded into a common market for goods, services and capital supported by removing barriers to mobility of individuals and resources inside Europe. Political investment in the integration of capital markets initiated the process of unifying a European labor market to compete on the global level.

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China and Europe were both pressured to adopt free market reforms to attract global capital and increase the appeal and economic value of their labor markets. China responded by introducing a system of private property rights, argued to be integral to attracting foreign capital (Maskus, 1998). Europe expanded their common market to support the mobility of people, capital and knowledge. Industries operating within Europe and those looking to invest wanted access to all European resources without restriction.

China has created a system of property rights in conjunction with the industrializing reforms. The adoption of a system of property rights was a major factor in integrating citizens into the global labor market. “When property rights can be freely

exchanged, firms will emerge” (Alchain and Demsetz as cited in Zhang et al., 2010, p. 179, footnote 4). The government began its transition to property rights by “contracting-out ... land properties to rural households” (Zhang et al., 2010, p. 179) and in 2004 explicitly wrote the protection of private property into the Constitution (Zhang et al., 2010). Proprietary capital was protected for domestic firms which contributed to the increase in foreign investment in China. The increase in global capital meant that more Chinese citizens could be employed as skilled labor and potentially compete against skilled workers in other countries.

In Europe, further integration of the common market appealed to global labor needs as human capital became more mobile and comparable. The “common market” is founded on the famous "four freedoms", namely the free movement of persons, services, goods and capital. It creates a single economic area establishing free competition between undertakings” (Europa, 2010b). Concurrently, further legislation was being passed to ensure the free movement of people across sovereign political boundaries, increasing the size and unity of the labor market. In 1985, the Schengen Act removed legal barriers restricting the free movement of people within the borders of the Schengen Area (Europa, 2009). By January of 1993, the unification of the single market was considered complete with over two hundred laws being passed eliminating barriers of movement of capital and professionals across borders.

With the formation of the EEC, the European Commission was launched to further integrate the countries politically making a single governing body for all supranational European affairs. The rapid development of emerging market economies such as China, were attracting global capital. To remain internationally competitive,

Europe responded by centralizing governance to increase regional adaptability to “changing [industrial] needs, society's demands and advances in scientific knowledge” (EC, 2000, p. 7) that drove the knowledge demanded of human capital by the global labor market. Global labor market pressures and internal political pressures to build a competitive national labor force were getting stronger. To keep up with the demands of the integrating labor market educational reforms would eventually have to make graduates more comparable across national boundaries to expand the pool of human capital.

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Along with adopting reforms to integrate global labor markets and attract global capital, China and Europe had to open their populations up to global competition. China legalized private sector businesses and entrepreneurial activities creating spaces where citizens could participate in the global economy through private industry. The legalization of private business also decreased the responsibility of the state in terms of forecasting and financing business activities (and centrally financing social services such as public education). Europe moved to match the mobility of the labor market in the education sector. The aim was to create a large pool of mobile human capital whose qualifications were easily translated across borders to meet the demands of an integrated labor market and to match the mobility of capital.

Under the Chinese Communist system nearly all non-public businesses were illegal (Zhang et al., 2010) and rights to property and land were controlled by the central government. Over the course of the industrializing reforms, the government made steps to give legal status to entrepreneurial activities, small businesses and other private sector

enterprises. “Self-employed businesses were legalized in 1983. Privately owned enterprises eventually obtained legal status in 1988...[and the protection] of private property rights was explicitly written into the new Constitution in 2004” (Zhang et al., 2010). This had three major effects which aided and required the decentralization of education. It created a taxable revenue stream for local municipalities by allowing for profit generating private enterprise, it decreased the importance of position based rights, stressing merit based hiring, and it increased the private sector's ability to employ Chinese citizens.

Under the centrally planned economy, all small businesses were still run and governed by the state authority and village leaders controlled all economic activity within their boundaries. Industrializing reforms in rural areas encouraged the creation of small businesses and township and village enterprises (TVEs)⁹ and township, village and private enterprises (TVPs). TVEs and TVPs were considered the best means to spread industrialization policies to villages (Vermeer, Pieke and Chong, 1998) and afforded peasants the ability to have ownership and authority over economic activity.

Profits generated by a newly privatized business sector were potential new revenue streams for local governments. Funds gained from the imposition of “commodity taxes, business taxes and value-added taxes ... [to be] paid by businesses and individuals” (Tsang, 1996, p. 426) were directed by the educational reforms of 1985 and 1993 to be used in funding schools.

Industrialization and the legalization of the private sector increased merit based hiring. Prior to the shift toward a socialist market economy, a worker's ability to find a

⁹ For further discussion on how TVEs support the transition to private property see Zhang et al., 2010 and Vermeer et al., 1998

job and his salary were based on rights associated with the position and his family background. A common practice was for employees to pass down rights to their position to their sons or daughters, never allowing the job to be open to general recruitment based on technical qualifications (Tsang, 1991). Under a centrally planned economy, the government divided students into areas of study to fill future forecasted manpower needs. As a result, the state sector of employment was not only very large but carried a substantial financial and social burden ensuring employment for all those who completed their required schooling (Liu, 1998).

To an emerging market economy, this was an inefficient use of an industrializing labor force since resources were not being allocated by market principles but rather by central directives. It was not until the industrializing reforms in response to the pressure of integration into the global labor market that job openings were filled through a process of open competition that emphasized the role of adequate training as a qualification for employment. Therefore, methods for training workers, or educational institutions, needed to respond to external labor market pressures.

To promote the growth of an emerging market economy, the workforce had to be employed by more than just the state sector. “When property-based rights were introduced and expanded, the incentive system changed radically in favor of private business activity” (Zhang et al., 2010, p. 190). A combination of the shrinking of the state payroll and the increase in private sector activity allowed the state to employ a smaller percentage of the population (Zhang et al., 2010). By changing the employment structure to favor industries that support merit-based hiring, the incentive and demand to continue education increased (Ngok, 2007). Property rights and the overall growth experienced in

China as a result of Deng's industrialization policies increased incentives and demand for additional schooling (Bils & Klenow, 2000). Because additional schooling was linked through statistical studies to the development of the national labor force, China was pressured to find a way to expand the education system without overloading state resources.

In order to open the European population to global competition and provide them with the necessary qualifications, the mobility of the labor, capital, goods and services markets needed to be matched by education. The Schengen Act, which removed barriers between countries for people, and the establishment of the Single Market, which removed barriers in the movement of information and capital, expanded the border of the unified labor market. External integrating pressures influenced Education Ministers to increase the mobility of students and graduates.

In its first attempt to integrate single market ideals into education, the EU launched the Erasmus program in 1987 which funded the movement of university students across borders for up to one year of study. This externally funded, time controlled program was one of the first steps by the EU's governing authority to aid education in responding to the pressures of a mobile labor force for convergence and cooperation. Yet it was largely ineffective in spurring further integration in higher education, and it also fell short of labor market requirements for permanent unifying changes.

EU law restricted the European Commission's ability to supranationally legislate changes to education to protect the autonomy of institutions that preserve national cultural (European Commission [EC], 2010). Therefore, Education Ministers were

restricted in their ability to create common reforms that would match the mobility of students and graduates to the demands of a unified European labor market.

Divergent Responses in China and Europe

In summary, China's education system is becoming less centralized and Europe's is becoming more centralized. China and Europe shared ideas about the means for economic development including taking steps toward integrating into the global labor market, reframing what it means to be competitive in a global labor market, and preparing citizens for integration into the global labor market. The reforms that respond to these issues demonstrate that different states translated global market pressures into educational reforms according to state ideas about the role of education, as well as the influence of long standing state institutions.

Two major reforms to education in 1985 and 1993 changed the funding and governance structure of China's school system (Ngok, 2007). The Decision of the Central Committee of the Communist Party of China on the Reform of the Education Structure adopted in 1985 at the National Education Conference and the "Program for Education reform and Development in China" adopted in 1993 outlined three interrelated changes. First, educational funding provided by the central government would be decreased. Second, the reforms offered two major solutions to close the funding gap. Townships had expanded power to charge levies and taxes to local households. They also emphasized that schools needed to establish relationships with industry and market their research and potential for training in order to attract new funding sources. Finally, university and vocational systems were separated administratively and placed them under different state

ministries. This was combined with an effort to increase the number and proportion of vocational training institutions in relation to secondary schools and universities in response to external pressures to integrate an internationally competitive workforce into the global labor market.

In 1999, European Education Ministers gathered to sign the Bologna Declaration, pledging to “reform the structures of their higher education systems in a convergent way” (EC, 2000, p. 3). Common pressures from integrating global labor markets¹⁰, transformed this initial pledge into a process producing a series of reforms that coordinated policies at a European level and consolidated governance of European higher education (EC, 2000). The signatory countries shared “a clearly defined common goal: to create a European space for higher education in order to enhance the employability and mobility of citizens and to increase the international competitiveness of European higher education” (EC, 2000, p. 4). Two additional steps were necessary. First, the reforms established the borders of cooperation naming it the European Higher Education Area (EHEA). This redefined the future labor force as a single unit and encouraged schools to collectively develop human capital. Second, the EHEA also took steps to enhance the employability of its unified labor force abroad by tuning¹¹ degree requirements to other nations and

¹⁰ There are six major objectives outlined in the original Bologna Declaration. First is the “adoption of a system of easily readable and comparable degrees... to promote European citizens employability and the international competitiveness of the European higher education system” (EC, 2000). Second is the reform of the degree system so that there are two main cycles and each level of degree awarded (undergraduate or graduate) is relevant to the labor market. Third is the establishment of a common credit system that would encourage student mobility and life long learning. Fourth is the deconstruction of obstacles and promotion of student mobility particularly within the EHEA. Fifth is to promote European cooperation to establish criteria and methods for quality assurance. And finally, to create an inter-institutional system of higher education that is European in nature which through mobility promotes programs of research, training and study (EC, 2000).

¹¹ This is an term used in literature to describe the converge of requirements so the term “standardize” is not used because standardization could result in the loss of unique cultural attributes which EU law aims to uphold.

marketing their process of reforms to other regions experience the same pressure to coordinate education practices to remain internationally competitive.

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Education was considered a means for developing human capital and the strength and competitiveness of the labor force. Therefore, schools were pressured to reform in response to governments taking steps toward integrating their labor forces into the global market. In China, the state decentralized responsibility for acquiring funding and generating revenue to the township level to allow schools the flexibility to be more adaptable to labor demands and build relationships with industry. In contrast, Europe has centralized their reform process of higher education under a single non-legal governing body to agree upon degree standards and requirements for study.

Chinese state resources were strained from expanding education in response to pressures to develop a competitive labor force and encourage social stability. The Communist structure of education that was in place before Deng Xiaoping and the moderate wing of the CCP took over power in 1976, was rigid and applied a universal set of standards and curriculums nationally even though different regions and townships had vastly different needs to participate in the process of industrialization and integrate their populations in the labor market. The 1985 Decision of the Central Committee highlighted the uneven development of regions within China and the resulting effect on attendance and quality of primary, junior secondary, secondary and vocational education institutions. The technical problem of increasing attendance to develop human capital resources allowed the 1985 reform to divide China into three functional regions: urban, moderately developed and rural areas, and underdeveloped areas. The distribution of the population

across these regions made a centrally mandated technical solution to the problem of how to popularize education nearly impossible prompting a decentralization in educational governance.

The first region comprised urban areas that covered 1/4 of the total population, developed areas in coastal provinces and the developed inland areas. A considerable part of these regions had popularized junior secondary school, with the remaining parts focusing on popularizing junior secondary school by approximately 1990. The second region included moderately developed counties and rural areas accounting for half of the total population. Measures taken in this region included popularizing primary school education and at the same time popularizing secondary education or vocational education by approximately 1995. The third region covered underdeveloped areas accounting for 1/4 of the total population. In this region, various efforts needed to be exerted to popularize basic education at different levels. (Wang, 2003, p.4).

The reforms of 1985 and 1993 recognized that the scale of this project required “a fundamental change in the *tizhi* ("system") of education, focusing on the structure, financing, and administration of education” (People's Press as cited in Tsang, 1996). The two reforms outlined the strategies for the decentralization of governance and diversification of funding in education. In response to pressures to integrate into the global labor market and support national growth through the development of the national labor force, the central government popularized basic, secondary, university and/or vocational education across all regions.

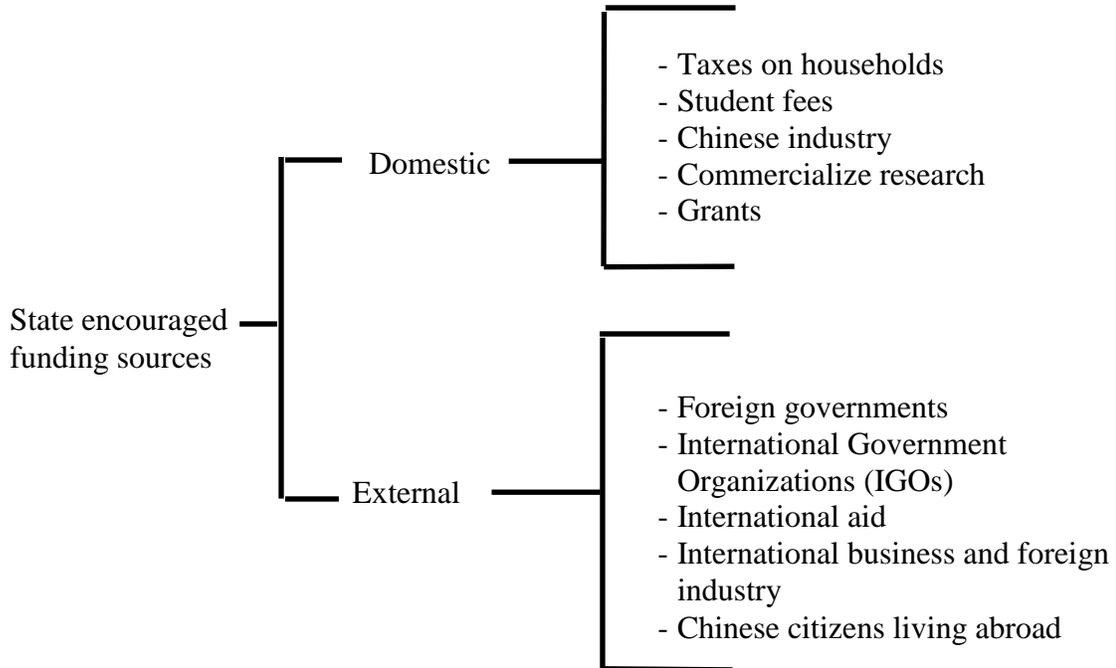
One of the first changes due to these reforms was that funding for schools was no longer guaranteed and provided by the central government (Tsang, 1996). As “[l]ocal authorities were borne more financial costs of education, multiple methods of financing education were encouraged, and the establishment of schools run by the non-state sector was allowed” (Ngok, 2007, p. 145). The reform in 1985 increased the responsibility of townships in raising funds for schools. The 1993 reform provided guidelines outlining potential funding sources to reduce dependence on the central government structure (Ngok, 2007). Central government expenditures in education would focus on primary schools that required financial support outside their township to ensure compliance with the nine-year compulsory education law¹² but funding for secondary, university and vocational schools was no longer guaranteed or predictable.

Figure 1 shows the domestic and external sources that schools and local administrations were expected to use to close the financing gap created by the 1985 and 1993 reforms.

¹² In 1986 the “Compulsory Education Law of the People's Republic of China” was passed making the first nine years of schooling mandatory

Figure 1

Funding Sources:



Potential financing options were split into domestic and external sources. Of the domestic sources listed above, initial revenues were generated by charging levies and fees on households and newly privatized businesses (Tsang, 1996). In 1984, the State Council officially allowed education institutions to raise money through taxation in rural areas. Though the range of rates allowed to be charged was set by the central government (in 1986 the rate was set at 1% by the State Council and raised to 2% in 1990) (Tsang, 1996), local municipalities were given some flexibility in the actual tax rate. “In rural areas, the town/township government may choose to impose levies on rural households (mostly peasants) at a rate of 1-3% of the agricultural taxes paid by these households” (Tsang, 1996, p. 426).

Local townships were not able to generate enough revenue from taxation and fees to satisfy educational budgets. On top of the shortfall in funding, the taxes and fees were often unaffordable to the general population. Pressures from industrialization and labor market integration influenced the expansion of education, particularly vocational training and higher education, to a wider group of citizens. Additional sources of funding were still required to meet government goals for the role of schools in national economic growth.

In contrast to the decentralizing reforms implemented in China, the changes in the European higher education system resulted in a more centralized system of governance to create a common European framework (EC, 2000). Previous to the Sorbonne Declaration (Sorbonne Joint Declaration, 1998), the predecessor to the Bologna Declaration, institutions of higher education across sovereign borders were autonomous and individual states determined degree structures and program requirements. Piecemeal attempts were made to unify practices in higher education across national borders. They consisted of agreements between individual countries to promote information and resource sharing but were insufficient to meet the human capital needs of the unified single market. The response was to create a central forum to evaluate and reform higher education practices amongst European institutions through the signing of the Bologna Declaration.

The Bologna Process¹³ reforms made efforts to “strengthen the competitiveness and attractiveness of the European higher education and to foster student mobility and employability through the introduction of a system based on undergraduate and postgraduate studies with easily readable programmes and degrees” (European Higher

¹³ The Bologna Process is the term used to describe the Bologna Declaration and follow-up conferences that combine their efforts to create educational reforms

Education Area [EHEA], 2010, para. 2) translatable across political, economic and cultural boundaries (Council of Europe, n.d.).

The employability of graduates is essential to the strength and competitiveness of a European labor force (Crosier, Purser & Smidt, 2011). Employability relies on the legibility of qualifications resulting from a universal set of changes to programs and degrees. Education Ministers needed to undertake a coordinated effort because EU law restricted the interference in public education by supranational governing structures. Bologna reforms were agreed upon under an extra-legal framework and decisions were not ratified by local or EU legislatures, leaving reforms to be adopted and implemented by individual institutions. Education Ministries relied on the pressure exerted by the global labor market to ensure universal compliance. If reforms truly served the needs of a unified market, then any “pressure individual countries and higher education institutions may feel from the Bologna Process could only result from their ignoring increasingly common features or staying outside the mainstream of change” (EC, 2000).

A centralized governing body mandated to increase the employability of European higher education graduates was essential to create the educational reforms that could technically match the mobility for goods and capital established by a single market with the developing human capital.

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The remaining common means for economic development in response to external economic pressures included reframing what it means to be competitive in a global labor market and preparing citizens for integration into that market.

Under the decentralizing pressures of the 1985 and 1993 reforms, Chinese educational institutions built relationships with industry and commercialized research to appeal to global business and attract capital to employ their skilled labor force. To prepare their citizens for integration into the global labor force, China structurally divided its educational system into two tracks, a vocational track and a general education or university track in an effort to efficiently provide market demanded skill sets to all citizens.

In contrast, under the centralizing pressures of the Bologna Process, Europe created the EHEA to enclose the area of cooperation between nations and institutions. Through this cooperation, Europe redefined themselves as a unified market and education system to face global competition. European Education Ministers also wanted graduates to be competitive in foreign labor markets. Therefore the new degree structures were tuned to those of international competitors and the Bologna Process reforms were marketed abroad as a prescriptive response to the pressures to integrate into a global labor market.

Under the decentralized Chinese structure, the 1985 and 1993 reforms encouraged relationships between schools and industry to close the funding gaps the policies also established. The challenges of popularizing public education across varied levels of economic development influenced the decentralization of authority to provide institutions the flexibility to help integrate their regional populations into the national labor force. The 1993 reform “explicitly stated the government intention to marketize education and provided more specifics on how it should work” (Ngok, 2007, p.145). It encouraged schools to commercialize research and market themselves as training facilities serving

industry needs. The government encouraged cooperation by outlining domestic funding sources for institutions to develop human capital (MoE, 1995) (see figure 1).

Funding needs for universities and vocational schools were different. Universities were less expensive to operate as they invested mostly in the creation of knowledge capital. Vocational schools were more expensive to operate because they required a larger investment in physical capital to provide the technical infrastructure for training¹⁴. Therefore these two types of schools were administratively divided by placing them under the authority of different state ministries, allowing them to be marketed separately to different potential revenue sources.

Universities marketed themselves to prospective donors by commercializing academic research and encouraging companies to subsidize the tuition and fees of future employees. By maintaining close links to business and technology sectors, universities “promote technology transfer and commercialise the results of their academic research; some even set up their own businesses and enterprises” (J. Kwong, 1996 as cited in Ngok, 2007, p. 150). Companies not only invested in developing research but took unaffordable fees as an opportunity to secure future employees by paying for their education (Ngok, 2007), regarding it as an investment in proprietary human capital. This is similar to how educational economists viewed the role of education in creating a labor force in that investments in school produced economic returns by strengthening human capital.

Vocational schools were moved under the authority of the labor department (Tsang, 1991), increasing their exposure to industry and particularly manufacturing.

¹⁴ Physical capital is a depreciating asset where knowledge capital can gain value with further development over time (McMahon, 1998).

China aimed to industrialize their entire population and integrate all regions into the global labor market. China responded to the shortage of skilled workers by increasing the number of vocational schools and their proportion to higher education institutions.

As the pace of industrialisation quickened in the early 1980s, serious shortages of skilled workers, semi-skilled workers and middle-level technicians emerged. In many factories, the number of high-level technicians and engineers outnumbered that of middle-level skilled workers, and middle-level technical work had to be performed by high-level skilled personnel. (Tsang, 1991, p. 67)

Vocational education was considered the weakest aspect of the state systems to build human capital and train skilled workers (Tsang, 1991). To expand their vocational training system, China utilized external sources of funding including IGOs, the WB and foreign governments. For example, Germany provided their “dual-track” system of education as a model for China and an agreement signed with the WB in 1990, resulted in an investment of \$180 million to develop vocational schools (Chinese Embassy in the People's Republic of Ireland, n.d.). This helped expand vocational schools into rural and underdeveloped areas to integrate those citizens into the global labor market.

Pro-farmer education policies also helped develop secondary vocational training in rural areas. IGOs were strongly in favor of expanding vocational education to increase productivity and provide more opportunities to rural workers. Therefore, the less developed and rural areas experienced a greater expansion of vocational training (CPCCC as cited in Xu et al., 2010) to support industrialization and prepare populations to compete in the global labor market.

During the 15 years between 1980 and 1995, the proportion of regular senior high school students among all the students in senior secondary education has decreased from 81% to 44%, while the proportion of secondary vocational school students has increased from 19% to 56%. From 1980 to 1997, secondary vocational education institutions produced 30.85 million graduates, fostering millions of secondary-level and primary-level technical workers, managers, skill workers and other labors with good vocational and technical education (Chinese Embassy in the People's Republic of Ireland, n.d., *The Achievement of Vocation Education in China*).

External pressure for integration into the global labor market and industrialization did not influence the production of the 1985 and 1993 reforms in isolation; political ideologies and goals for social stability also influenced reforms. A popularized education system encouraged decentralization in governance to allow regions to develop independently. Experiences of other developing countries showed that fully decentralizing governance and leaving the entire responsibility of financing primary and compulsory schooling to the city or township level resulted in an uneven development of education systems and extended the duration of time required to fully implement compulsory education reform (Wang, 2003). China wanted to prepare their citizens for integration into the global labor market at an equal pace across regions to protect social stability by minimizing urbanizing pressures. China took a tiered approach to decentralizing the financing of education in order to uphold state ideologies of social equality which suggested that equal access to educational opportunities should be protected so that every student could develop participate in the industrialized economy.

The central government would continue to “monitor the process and provide basic guidelines to education development” (CCPCC, 1985 in Ngok, 2007) to ensure that institutions still upheld state ideas about the role of education while providing skill-sets to the largest potential labor supply of any country (Deng as cited in Xu et al., 2010).

For Europe, part of reframing what it meant to be competitive in a global labor market was redefining the boundaries of the “national” labor force to include all students and graduates within the EHEA. To prepare this unified labor force for integration into the global labor market, Education Ministers attempted to make European degrees legible internationally through tuning their requirements to the widely understood American model and encouraging other regions influenced by similar integrating pressures to adopt similar reforms.

The EHEA defined the borders for the mobility of students and knowledge and the convergence of standards. It also defined the area of cooperation between nations and institutions. This created a common European labor force that responded to the economic need of a unified regional market. Economic growth benefited from an educated labor force but qualifications for employment needed to be legible across borders to match industry needs with available human capital. European countries redefined their labor market allowing regional competitors to be considered as additional assets to growth. Markets where European degree standards were not legible were branded as competitors in attracting global capital.

Being competitive in a global labor market not only included making their citizens’ degrees more legible inside Europe but expanding their legibility to labor markets outside Europe. European Education Ministers used the convergence of

standards to prepare their citizens for integration into the global labor market by tuning their degrees structures to the dominant structures in global higher education (Gaston, 2010). The United States hosts the largest number of international students, often from the fastest growing economies (Institute of International Education [IIE], 2010) increasing the number of graduates with similar degree structures globally.

The tuning of degrees to make qualifications comparable between graduates of American and European universities expanded the labor markets where European graduates were competitive (West, 2010) and allowed European higher education institutions to vie for students looking to study abroad. An increase of foreign students would presumably bring knowledge capital and technology advancements to Europe, making their economy more competitive on an international scale and allowing them to grow at a faster pace (Bils & Klenow, 2000; Liu, 1998; Murphy, Shleifer & Vishny, 1991; Nelson & Phelps, 1966).

Another way Europe aimed to make their graduates more competitive in a global labor market, was to market their model of higher education cooperation to other regions responding to similar external economic pressures. By exporting their system of unified degree structures, Europe encouraged other regions to respond to external pressures to build a globally competitive labor force by reforming degree structures to have similar standards (West, 2010). If successful, the reforms would expand the influence of European higher education institutions in building a European and international labor force.

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The reforms of 1985 and 1993 greatly liberalized public education in China from the highly centrally planned system that was in place under the conservative leadership of the CCP. The centralized decision making developed by the Bologna Declaration and Bologna Process supported both state ideas about the role of education and the integrating pressures of the global labor market. A comparative study of these divergent reforms reveals that though China and Europe share goals for education, common external pressures, and ideas about how to spur economic development, they created educational reforms that responded to both these influences as well as long standing state institutions and political structures.

Conclusion

The use of data and quantitative studies to analyze the influence of education on social equality and growth frames the problems resulting from inequalities and inadequate growth as technical. As a result, it reduces highly complex systems of education and their influences to standardized and simplified sets of numbers.

Economic differences between genders, races, geographies and socioeconomic backgrounds are socially destabilizing (T. Marshall, 1964). Socially destabilizing problems require actions aimed at finding a resolution. These differences or gaps between groups are technically represented through the comparison of test scores, graduation rates, literacy rates and other measurements that quantify educational attainment. The existence of these gaps becomes a technical problem. Technical problems are expected to have technical solutions. These solutions for education include reforms aimed at decreasing truancy, increasing minority populations in universities and improving test scores.

When problems resulting from statistical differences in educational attainment are framed as technical, it depoliticizes school reform. The suspension of politics from a highly politically charged situation allows states to interject with the technical solutions the system expects (Ferguson, 1992). Politics are suspended by removing the overt influence of social and political ideologies and the situation is political because state institutions are involved in creating both the problem and the solution. The technical solutions aimed at reducing social inequalities and bolstering national growth include increasing the number of math and science graduates and raising the overall test scores of the general population.

The example of the global achievement gap is again applicable. Technical skills and technological advancements are correlated quantitatively with higher national growth rates. In the United States, the technical problem is that other countries are growing at a faster rate, and foreign national models of education place more of an emphasis on science and engineering. Therefore, according to the technocratic approach to problem solving, to increase national growth in the United States, government policies need to focus on increasing the number of math and science graduates from technical schools and universities to minimize gaps.

In looking at development policy, James Ferguson, a noted social anthropologist, argued that the process of policy creation, the policies themselves and the state apparatus implementing them are inherently political because they uphold state ideologies (1992). He produces a counter argument to the technocratic approach in his research in development policy by showing that neither the problem nor the solution are technical but political (Ferguson, 1992). My thesis reinforces his conclusions by showing that states and the process of educational reform are both influenced by political ideologies. Because technical solutions are believed to be universally applicable when the influences producing the problems are shared, the technocratic approach, which argues that the role of statistical measurement and analysis in reform is essential to creating neutral and effective policies, is challenged by the divergent policy responses to common influences in China and Europe.

The technical solutions developed, in part through the statistical analysis of shortfall in educational attainment and labor market strength, were inadequate in solving the technical problem of uneven economic development within China and the insufficient

mobility of students within Europe. Despite efforts to universally industrialize China and allow students within the EHEA to move freely between universities and earn a commonly structured and widely legible degree, outcomes have varied from policy goals.

China has experienced an even larger income gap between skilled workers and industry executives as well as an economic development gap between regions that have adopted more market-oriented policies that increase the productivity of business and manufacturing (Murphy et al., 2001; Zhang et al., 2010). European higher education institutions have been slow in reorganizing their degree structures to match the Bologna reforms leaving them diverse and not universally legible (Lazetic, 2010). Also, the technical solution of increasing mobility by converging qualifications and requirements did not account for the cultural and social reasons students chose specific institutions.

Technocratic approaches to understanding social problems do not erase the influence of politics. State ideas about the role of education in society and long standing institutional structures reflect political ideologies and interact to influence educational reform. Inequalities between groups created and reinforced by national and regional differences in educational policy and policy implementation are also influenced by political ideologies. These inequalities or functional gaps are represented technically through measurements and quantitative studies. Technical reforms aimed at closing these gaps or minimizing inequalities interact with the same political forces that created them. The results of these reforms will vary from their universal goals and reflect state ideologies.

So What Does this Mean?

Educational reforms are not just influenced by state ideas and institutions, they also replicate them (Ferguson, 1992; Foucault, 1975). The state cannot implement reforms without exerting its own influence on the process. The state uses policy implementation as a tool to reinforce its power, and its political and social ideologies through the support of state institutional structures. The gaps between groups uncovered through statistical measurements not only represent technical problems for the state to solve, but functional spaces for the state to intervene in society through educational reform. In other words, functional gaps exposed in the process of measurement become entry points for the state to exert its bureaucratic power (Ferguson, 1992; Foucault, 1975).

These gaps are not only functional in the replication of state power but also in free market operations. The capitalist system requires and benefits from inequalities because they promote competition between groups (Foucault, 1975; Colquhoun and Mandeville in T. Marshall, 1964; Parnes, 1968). Social equality or the elimination of gaps is at odds with the capitalist and socialist market system (T. Marshall, 1964). The state will only promote equality or close gaps to the extent that it serves state goals for economic growth. Because gaps are functional for the state and the market, reforms will never reach the goal of equality (T. Marshall, 1964). Gaps and inequalities will always exist.

These functional gaps are exposed statistically through the compilation and analysis of data. The state and government organizations hold the largest and most complete data sets. This statistical knowledge gives the state power in the formulation of technical problems and the production of technical solutions (Ferguson, 1992; Foucault,

1975; Scott, 1998). As I addressed in my literature review, the state is not neutral in its collection or use of data sets. Political influences are present in the creation of surveys so the conclusions drawn from analyzing statistics will reflect state politics and ideologies.

I took this tangent to show that the state is only one of many who hold knowledge that influences educational reforms and their implementation. Arguably citizens hold as much or more power through their abundance of local knowledge or *mētis*¹⁵ (Ferguson, 1992; Scott, 1998). This situational knowledge is developed through experience, not statistics and is influential in how reforms are implemented locally. Experience with local cultures and value systems provides a window of understanding into how reforms will be received and implemented. My thesis showed that universal influences created divergent responses. Universal and technical reforms must also create diverse responses according to the influence of local institutions and culture. The application of local knowledge gives communities agency in a reform process that appears technical and influenced by factors created on the national and global level.

Because local populations also hold substantial power, there is and will always be a place for their interjection in the reform process no matter how abundant the literature is that frames the process as depoliticized or reactionary to global markets, labor needs and national growth. This thesis is a reply to those who encourage technocratic responses to social problems. Though common and dominant layers of influence are factors in the development of educational reform, the realities on the ground and the success of policies in achieving their aims rely on a multitude of factors not easily measured or accounted

¹⁵ James Scott uses the term *mētis* in his book *Seeing Like a State* (1998) to describe practical intelligence. “*Mētis* is typically translated into English as ‘cunning’ or ‘cunning intelligence.’ While not wrong, this translation fails to do justice to the range of knowledge and skills represented by *mētis*. Broadly understood, *mētis* represents a wide array of practical skills and acquired intelligence in responding to a constantly changing natural and human environment” (p. 313).

for within the technical framework where reforms are created. The phrase “knowledge is power” is true and should be comforting to those like myself who wish to positively influence education currently and for future generations. I hope this inspires others whose hesitation to take action stemmed from their perceived failure of local populations in the political process. The application of *mētis* in the reform process is influential in shaping our futures and should be regarded as an advantage.

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