U.S. Economic Influences on Mexican Curriculum in Maquiladora Communities: Crossing the Colonization Line?

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Abstract

This research report is one aspect of a long-term and ongoing exploration into shifts in curriculum practices in education in the United States and Mexico that occur under the influence of strong political support for U.S. market enterprises at home and around the globe, and, in particular, U.S. manufacturing activity in Mexico. Situated in a theoretical framework of Bowles and Gintis (1976) social reproduction theory, and based in the repercussions on education in the global era (Stromquist and Monkman, 2000) this phenomenological study builds on that framework with evidence from Mexican educational policy and school curricula. The research poses and addresses, via examples from Mexican education, the research questions: To what extent should public educational funds provide training for private enterprises? When the private enterprises are foreign, to what extent do the curriculum shifts constitute neocolonizing practices?

"Will the predatory Statue of Liberty devour the contemplative Virgin of Guadalupe, or will they merely dance a sweaty quebradita?" Gómez-Peña (1996)

In this global era, international exchanges artificially accelerate social change at a pace that endangers many societal elements. Economic exchanges force this accelerated pace and remain protected through acute monitoring to ensure benefit to the corporate interests controlling the exchanges. The escalating social changes left in their wake, such as those in education, are seldom monitored or documented.

Impacted societies are left to struggle with the less publicized, but more lasting changes in families, traditions, values, and other ways of life.

The following is a report of research documenting a social change by examining a microcosm of Mexican education in the changing social environment surrounding the large foreign manufacturing operations (*maquiladoras*) that have recently located in that country. This study is one aspect of a long-term exploration into shifts in curriculum practices in U.S. and Mexican education that occur under the influence of U.S. political emphasis on global economic market activities. It is a step in the complex but vital genre of studies exploring educational impacts in the global era.

The data that emerged from the larger study were organized into three themes, some of which have been published in the field. The first theme dealt with educational infrastructure and program contributions (or lack of contributions) that the *maquiladoras* provide to the Mexican communities (Hampton, 2004). The second theme dealt with the stress on resources for the schools and families in the *maquiladora* environment (Rincones, R., Silva, C., & Hampton, 2008; Hampton, E., Liguori. O, & Rippberger, S., 2003). The current study introduces the third theme--that of the impact of U.S. factory industry in Mexico on that country's public school curriculum. Because the theme is very complex, the current study is tapered to a report focusing on the theoretical framework as an organizing structure. Relevant data that emerged fill in the framework.

Mexican education is vast and undergoing rapid change, thus a tight definition will be impossible. Each school has unique characteristics defined by the community, faculty, and students. This study describes some of the impacts on school curricula that were evident in the *maquiladora* communities involved in the research. Although the focus on these three schools is neither generalizable nor conclusive, it does provide enough information to frame the question and to raise concern.

The research question for the larger study was, "What effects of U.S. factory involvement in Mexican communities are evident in those community schools?" To explore this, I have visited factory labor communities in several Mexican locations since 2002, including Ciudad Juárez, Chihuahua, Toluca, Puebla, and Mexico City. With funding from an organization, Mexico North, I visited more than twenty

schools in these *maquiladora* communities, and I interviewed each school principal and one or more teachers. I also interviewed fifty people who work in the factories. I visited six *maquiladoras* and interviewed the personnel directors to learn more about school-*maquiladora* activities and/or educational programs provided by the factory. Visits to two particular factory labor communities in Ciudad Juarez are regular and ongoing. A close friendship has developed with a young couple who works in the *maquiladoras* in Ciudad Juárez and who reside in one of the communities where factory laborers have settled. They served as my guides in that city, and our ongoing friendship provides deeper insight into the phenomenon. The principal and teachers in a school in another community in Ciudad Juárez are also close colleagues and guides to the study. Visits to schools in two other Mexican communities that are not *maquiladora* labor communities, Oaxaca and Ojinaga, also inform the study.

Qualitative approaches guided the research, since these approaches focus on phenomena that occur in natural settings and involve studying those phenomena in their complexity. The qualitative approach helped interpret and portray the multiple perspectives. In this phenomenological research design (Cresswell 2005; Leedy and Ormond 2001), I attempt to describe the meaning of the experiences of those involved in this phenomenon and to provide sufficient detail in the text in order to give the reader confidence in the findings and to highlight multiple sources or examples to develop the concepts.

Framework: Social Reproduction Theory

Schools are embedded in an economic political context. Understanding the power of this context helps in the examination of the purposes of schooling and the forces that drive the curriculum. As Richard Shaull says in his introduction to *Pedagogy of the Oppressed*,

> There is no such thing as a *neutral* educational process. Education either functions as an instrument that is used to facilitate the integration of the younger generation into the logic of the present system and bring about conformity to it, *or* it becomes 'the practice of freedom,' the means by which men and women deal critically and creatively with reality and discover how to participate in the transformation of their world (Freire 1996:16).

Therefore, educational decisions are also embedded in this economic political context and can be analyzed via an understanding of the purpose of schooling. Bowles and Gintis (1976) social reproduction theory frames this exploration. Education for social reproduction serves the interests of the dominant classes by reproducing the economic and social relations in society. If a society sees that the purpose of schooling is social reproduction, then that society will call for a more standardized curriculum teaching a narrow range of skills and abilities so the citizens will be more passive and accepting of the status quo. Technologies that serve the market economies will have priority in curriculum decisions, so curriculum decisions lean toward a design that better serves the market's economic needs. When enacted in classrooms in the laborers' communities, the pedagogical practices focus more on the "delivery" of predetermined content, and the learners are relegated to the role of passive recipients.

Bowles and Gintis' (1976) classic book, *Schooling in Capitalist America*, further clarify this theory of social reproduction in reference to the link between the social relations of education and those of production. Members of a community accept their position in the social division of labor because it corresponds to their position in education. Factory workers are socialized to appreciate low levels of education, submission to authority, and an education narrowed to skills that enhance their productivity in the factory. Families who are in the economic power circles demand a richer education encompassing a larger range of skills and concepts to prepare their children for power positions. "In short….the educational system's task of integrating young people into adult work roles constrains the types of personal development which it can foster in ways that are antithetical to the fulfillment of its personal developmental function" (126).

In Chapter 5, Bowles and Gintis describe several empirical studies that support the theory. All of these studies found education programs corresponding to the expectations of specific layers in the industrial system. Jean Anyon's (1980) classic study explored the curriculum in schools in five communities of different socioeconomic levels. The results mirror the studies that Bowles and Gintis describe. Children in schools in low-income communities were in more prescriptive curriculum for a vocational track steeped in social control. Schools in the affluent and executive schools had curricula rich in creative activity, with much expressiveness to develop

analytical intellectual powers. There were relatively few rules or limits on children's individual activity in these elite schools.

Educational Repercussions in the Global Environment

Stromquist and Monkman's (2000) work adds structure to further frame this study. They identify damaging repercussions on public education occurring in the global market place. In addition to these changes on schooling, they have identified consequences that particularly impact educational curricula. First, subjects such as the humanities and arts are devalued as subjects that meet the technological needs of industry, such as math and science, dominate the curriculum. Second, there is little value and less room for the important critical dialogue inherent in a democratic curriculum. Learners do not have the opportunity to think critically about their society and their role in that society. They are busy learning how to comply with and maintain the society's status quo. Third, issues of efficiency via state-determined curricula overshadow issues of equity concerning under-represented groups in society. The following chart is based on Stromquist and Monkman's work, and can be used as a tool to examine globalization's political repercussions in public education.

Table 1. Repercussions on education when the purpose shifts to serve the global market economy

LESS	MORE
Criteria for critical thought and integrated content	Criteria for efficiency and productivity
Student-centered curriculum	Vocational training focusing on the economy
Emphasis in humanities and arts	Emphasis in subjects serving the market such as science and technology
Teaching style and pedagogy encouraging discussion and critical thinking	Solutions to problems using the business model
Education seen as the right of the people and a common good for all citizens in a democratic	Education seen as a market commodity to sell and buy
Role for public education to enable citizens to see the inequities in society and know how to make changes to improve society	Role of public education to enable average citizens to work in a capitalist society
Examination of the causes of power positions, levels in societies, and marginalized people	Study of a body of facts standardized for public education

Adapted from Stromquist and Monkman (2000)

A society based on a market economy focus requires an education that replicates or enhances existing society and power structures. With this goal, the society will demand a curriculum with a narrow range of skills and abilities so the citizens are more passive and accepting of the status quo. The corporate powers are at an advantage if the majority of the citizens have a standardized curriculum that does not promote critical thought. Standardizing the public thought allows the producers to predict the needs and wants of society, market accordingly, and, thus, increase sales. Citizens without critical thought will be easily swayed by advertising propaganda and sales will increase.

More democratic societies desire that education provide its citizens with the ability to question and change the society. Curriculum in these societies will be less standard and more complex with much more autonomy and critical thinking.

Contrast of Democratic Curriculum

Social reproduction theory harshly contrasts with other theories that propose that education is democratic -- designed to serve the public good. The many scholars who write about democratic education value more democratic ideals and view schooling potentially as the great equalizer, opening all doors for all citizens (Beane 2002; Dewey, 1916; Apple, 2000; and Johnson and Johnson, 1975). Curriculum options for democratic education are broader and more inclusive. Dialogue becomes particularly important in the curriculum as learners communicate, reflect, and inquire into their world. As Freire says, "Knowledge emerges only through invention and re-invention, through the restless, impatient, continuing, hopeful inquiry human beings pursue in the world, with the world, and with each other" (1996: 53). Excellent classrooms across the globe implement democratic curriculum and pedagogical practices. I found several examples in Mexico and highlight two of them below.

Examples of a Democratic Education in Mexico

An example of the democratic and critical curriculum comes from the Mexican high school in Ojinaga, in the state of Chihuahua, Mexico, the town where the Rio Conchas meets the Río Bravo (in the United States it is called the Rio Grande). The community is not a *maquiladora* community. That factor may or may not affect curriculum

decisions in the school, but this study was not designed to examine that fact. The importance of the story is the example it provides of how schools promote democratic and critical thought.

The students in Professor Umberto's class monitored and recorded water quality and water quantity in four locations upriver from their homes. Then they located *ancianos* (senior citizens) in the four communities and interviewed them about the history of the river, the uses of the river, and the changes they had seen. They analyzed the data and reported the information, compared and contrasted the findings, and made presentations about their predictions for the future of the river. They showed me their final notebooks journaling their research. These provided evidence that they had a working knowledge of interview techniques, chemistry and biology water tests, data analysis, communication and presentation skills, travel planning, regional history, and research skills.

The curriculum emerged from the students' interests and issues relevant to their communities. The students were learning to examine their own society and think critically about political actions. Content knowledge was still highly valued, but learned in the context of world applications rather than in isolated content divisions. Specific content such as the pH of water, local history, and microbiology was taught as it became relevant in the students' investigations.

Another example comes from a non-formal educational setting in an ancient village. Teotitlán del Valle, a village in the Mexican state of Oaxaca, has been a textile center since before the Spanish colonization. Early fabrics made from the sacred *agave* plant provided clothing and religious garments. Indigenous people in the area shifted to using wool and other fibers after the coming of the Spaniards. Today, Oaxaca is world-famous for rugs and blankets. The children learn the weaving process through years of experience in the home, where each individual piece is created and produced on a traditional loom.

I met a group of ten single mothers in the village who united into a cooperative for creating traditional rugs. They lived worked together to maximize resources, help care for each other's children and organize a productive work schedule. Their business was designed to preserve and pass on the traditional methods of making the dyes and

treating the wools. Their children's education was rich with complex understandings about plants, tinsel strength, geometry, mixtures, solutions, history and traditions. The cooperative allowed the women to educate their children, to meet basic needs and to care for their children because of the communal support.

Evidence of Democratic Thought in Educational Design in Mexico

In Mexico, there is evidence of a democratic educational philosophy on the first page of the Secretaría de Educación Publica (SEP) *Programa Nacional de Educación 2001-2006* (SEP 2001:15, author's translation):

> Education will be democratic, considering democracy not only as a judicial structure and a political regime, but as a system of life functioning in the constant economic, social, and cultural improvement of the people….together with the appreciation for the dignity of the person and the integrity of the family…sustaining the ideals of fraternity and equality of the rights of all people, regardless of race, religion, group, or gender.

The secondary school program in Mexico functions in the tension of trying to meet the two goals of preparing youth for the immediate demands of the labor market and preparing youth for professional studies. During the presidency of Lazaro Cardenas (1934-1940), the schools aligned with socialist pedagogy so that citizens would be "oriented toward community service and not the desire for private gain" (Morales 1988:122). The influence of administrations following Cardenas led to schools designed to provide more qualified technical labor for the national needs. Then, with the reign in the 1990s of Carlos Salinas de Gotari and Mexico's involvement in NAFTA, the design of secondary education shifted to a more "efficient" model leading to greater "productivity" in the global economy (Levinson 1999).

This study does not determine the quantity or quality of public schools in Mexico that have adopted the democratic philosophy. One school described below embraced the philosophy, but political mandates were rapidly forcing a shift to a philosophy that would maintain and strengthen the existing market economy structures. Other schools in the communities serving the large U.S. manufacturing operations had less, if any, praxis of a democratic philosophy.

The Research Questions

Not far from the weaving center mentioned above, Teotitlán del Valle, is a factory community in the nearby state of Puebla. The stark contrast in the communities called for the research question. Here, in Puebla, a recent innovation was the textile industry of foreign countries. Several large factories dotted the state, mostly near or in the larger cities. Young Mexican women moved from their small villages to the larger city to work in these factories. In Atlixco, a community in the southern part of the state, a public school provided education for these young women at an upper elementary level. Many of the women came from high poverty areas and had minimal educational experiences. Half of their curriculum focused on how to use sewing machines donated to the school by the local factory. After graduation, these women moved into the factory positions. They worked away from home for long hours and depended on others to care for their children. They sat at sewing machines set in rows, sewing the same patterns of seams over and over on synthetic fabrics to make athletic clothing for people far removed culturally, geographically, and economically. They received $4.50 per day. Ancient cultural and family traditions were exchanged for the demands of a factory serving a very distant and very different society.

The contrast in the textile industries described above led to the research focus on the purpose of curriculum. To what extent should public education funds provide training for private enterprises? When those private enterprises are wealthy businesses from a foreign country, an additional layer is thrown over the question wrapping it in a colonizing context. Some significant and relevant existing research that explores this question is presented below.

Policy Changes in Mexican Curriculum

Mexican education documents an understanding of and desire for a democratic public education as described above, and, as in the United States, it is implemented in some places. However, also as in the United States, the global economic interests can overpower this intent and woo the curriculum decisions to support corporate interests.

Carnoy (2000) describes the impact of international educational reform programs that are shifting curriculum design toward this repoductionist, market-based purpose. The

International Monetary Fund helps prepare countries to enter the global economic environment by reducing the size of the public deficits and shifting national resources from government control to the private sector. Then the World Bank contributes with loans conditional to specific educational reforms. This powerful organization has taken the firm position on the right of the economic philosophy to move education out of the shelter of the public's common good and into the competitive market environment. According to Carnoy, the Bank's philosophy is impacting educational reform in every nation involved in the global exchanges. Hanging precipitously are the foundational values of education that lead to a strong democracy – equity and access.

Buenfiel (2000) validates that this Mexican educational reform is influenced by World Bank and International Monetary Fund. She sites World Bank wording for educational reform and locates almost identical wording in the Mexican educational reform documents.

The *maquiladoras* are mostly U.S. businesses, often Fortune 500 businesses, with healthy profits. There are almost 300 *maquiladoras* in Ciudad Juárez alone. One factory may employ 1,000-2,000 people, 80 percent of whom are line workers. In the United States, each line worker's salary would be $10.00 per hour, often more. In Mexico, the same work is accomplished for $4.50 - $6.00 per day. Of course, these economic forces are making changes in education. My studies provide evidence that some of these changes have been designed to serve the interests of the foreign businesses. Some changes are the direct result of the community schools trying to meet the labor needs of the local factories and to provide jobs for the people. Other changes are policy changes made by the Mexican government and influenced by the International Monetary Fund to provide an education that they feel makes their citizens better prepared to work in the global market economy. There is, indeed, benefit to the Mexicans in increased employment. There is also concern that the long-term impact on curriculum and future opportunities for the Mexicans is not beneficial.

In 1995, Mexico began an educational effort to provide a standard certification for many fields of labor focusing on technical education and work training called the Project for Modernization of Technical Education and Training (PMETYC). The project received funds from the World Bank. The stated purpose of this effort was to

better prepare Mexican citizens to enter the world of work, insisting. "…that the employees have received a training that permits them to be more productive, to be more valuable for the businesses, and, for themselves, to receive a higher salary and more stable jobs" (SEP, 2000, p. 7). .

PMETYC was based in competencies focusing on practical knowledge of work activities common to most occupations in Mexico. Modules and educational packets were developed. For the secondary schools, this resulted in a major curricular reform. *SEP* required that all high schools that did not already have technical and work training to implement these into their curricula. The specific changes were to eliminate many courses and replace them with technology and accounting courses designed as preparation for work. The principals of two high schools described below were in the process of implementing the curricular reform at the time of my interviews.

Evidence of Curriculum Shifts for Social Reproduction

Loma Linda High School

Loma Linda High School (pseudonym) serves a large community in Ciudad Juárez, Chihuahua, Mexico. Over half of the students came from homes where the parents are employed in the *maquiladoras*. It is one of the few public high schools funded with partial federal funds and partial fees from the students. However, at the time of the research, the school had received no government support for more than two years, and all the budget came from the fifty dollars per month each student paid. The fortunate students who found jobs working in a *maquiladora* or a restaurant in the afternoon could afford the tuition to attend. For others, the fifty dollars was a very significant financial sacrifice. The majority of high-school age children in the community did not attend school.

Blanca Soto (pseudonym), the school's principal, explained that the school had made a minor curricular change (described below) that the government authorities did not approve, so their government funds were cut. The principal at Loma Linda was very much opposed to the large scale, nationwide curricular reform *SEP* was imposing in her school and other high schools.

An understanding of the philosophy of the principal and teachers at Loma Linda may help clarify why the school opposed the curricular reform. Ms. Soto and a literature teacher, Cesar Silva, provided much of the information through several interviews. In addition, I was allowed to assist in the English classes and interview the students. Ms. Soto explained that when she took over as the school principal, the students had their designated restrooms and the staff had restrooms in the office building. This staff restroom was kept locked and only staff could access the key. Ms. Soto told me, "I decided to open these restrooms for everyone in the school. Each person is equal and anyone can use the facilities without any distinction."

The high school teachers were paid by the hours of classes they teach. Mexican teachers often compete for the extra hours to make their small salary (about $400.00 per month) stretch to meet their needs. When a position opened, the teachers' union, which has much control in hiring teachers, wanted to assign those extra hours to the teachers with most seniority. Ms. Soto called the faculty together and they generated their own plan. They decided that the hours would be distributed among the newer teachers who had fewer hours.

Another example of their democratic thought involved payroll. Because the funds were limited, it had been difficult to meet payroll. Ms. Soto told me that the teachers eventually received almost all the pay they earn, but it was usually very late. The principal called another meeting, this time including staff and faculty. They decided together how to distribute the payroll. They devised a level system. The first level included staff such as custodians who depended on the money to survive. The second level included the newer teachers who had less income. The older teachers with more hours agreed to receive their salary last because they had more resources to fall back on.

The Loma Linda staff had an open door policy in the office. On my visits I saw the students going in and out of the office area, chatting formally and informally with the administrators and staff and calling them by first name. Ms. Soto told me that two years ago the students complained to her that they were taking ten classes a semester and this was too much. She met with some students and teachers and devised a bi-semester system where they would take five classes for ten weeks and five more for the next ten weeks. The teachers readily agreed because they were able to focus more

on their students in the reduced class load. They implemented this change, and it was this change that was considered an unauthorized curricular change by the school officials. Their government funds were cut. She said they went back to the ten-hour system the next year, but the funds were not reinstated.

It is the defense of a democratic curriculum that Ms. Soto and the faculty present that is most interesting and informative. At the time of my initial investigation in the school in the spring of 2003, the school provided a general curriculum for all students and one sixth of their courses were selected from a menu that would give them more specific preparation to enter a career or to enter a course of study in higher education. There were twelve of these options including pre medicine, physics, arts and literature, computer technology, and business courses. Starting in the fall of 2003, in response to the curricular reform implemented by PMETYC (mentioned above), the school had to eliminate these twelve options and provide only the modules for computer technology and business accounting for all students. In Ciudad Juárez, the majority of jobs in any field of business are jobs in the foreign *maquiladoras* and most of those require minimum skills.

Ms. Soto expressed her frustration.

> Who am I to tell a person that they should work in a factory or not. I want the students to be prepared to go to UACJ [Universidad Autonoma de Ciudad Juárez] or UTEP [University of Texas in El Paso, across the border] or to go to work as a technician if they want. We had courses that helped the students be critical thinkers about their society like the Socioeconomic Structure of Chihuahua [the Mexican state where Ciudad Juárez is located] and an art class that examined border cinema. This art is much more relevant than the art of Salvador Dali that is in the curriculum. We had to eliminate these classes and even our English language classes.

ICATEP in Puebla

In the Mexican border communities, the *maquiladoras* have a strong influence in the secondary and technical training schools. The schools are often located near the industrial zones. *Maquiladora* employees are teaching some of the technical classes in the secondary schools. This strong integration has been encouraged in hopes of providing a more efficient education system and a decrease in unemployment in the work force. It is mutually beneficial on this scale for the schools and the industry to

collaborate. The industry is looking for employees with certain skills, and the schools want their students to be prepared so they can compete successfully for the jobs the industry provides.

Clearly evident in the examples below is the benefit the industries derive from these partnerships. More hidden are the long-term impacts on Mexican education. The examples help to provide a feel for the direction the collaborations are moving, an insight into the allocation of educational resources, and the way foreign businesses influence Mexican curriculum.

During the 1990s, the SEP's office implemented a series of secondary training schools called *Instituto de Capacitación para el Trabajo del Estado de Puebla (ICATEP).* There were 15 ICATEP schools in Puebla, and they existed in other states as well. The schools were designed to prepare people to work in the industries in the local community. One goal was to provide students who live in rural areas and indigenous communities with jobs that will keep them in the local area. Students selected from a curriculum of courses in carpentry, secretary skills, sewing, automotive skills, and computer training. *SEP* provided funding for the teachers, facility, and some of the basic tools such as the twenty computer stations and auto mechanic tools along with a small budget for maintaining the machines. The rest of their budget came from support from the community, and there was a requirement that ICATEP schools link with the local community for funding and support.

Earlier I mentioned the school in Atlixco. It is one of these ICATEP schools. There is a large U.S. owned clothing factory and a Bacardi Rum factory in the area. The industry-school collaboration is most evident in the curriculum for sewing. The clothing factory provided thirty sewing machines on loan and pays tuition fees for the students. In return, the students worked for two hours per day at the factory while they were learning at the school. At the end of the one-semester sewing class, the students had made one complete garment. The local police provided fabric and the women in the sewing class made new police uniform shirts as their learning projects. The large Bacardi plant and AgricoNational Chemicals also provided assistance for tuition. The owner of the clothing factory said that this program was very beneficial to his business. He could select the best students to fill his vacancies and the training was reduced from six to eight weeks down to about three weeks.

In addition, the ICATEP schools provided community workshops that aligned with the community roots and culture. For example, this community, Izucar de Matamoros, has throughout history made clay sculptures called *arbol de vida* or trees of life. Small clay figures depicting Bible themes and nature are attached to the tree-shaped candelabra and painted bright colors and unique designs. There are traditions and histories that inform each sculpture. One of the local artists provides community workshops in this art so the tradition will live on in the community.

"We are people with heart and conviction to help the region," the school director told me. "This is an adult education program for anyone to prepare them for local jobs. Anyone who can read and write and is fifteen years or older can enter, even if they have not finished primary or middle school." She told me that most are young people from the rural communities looking for alternatives to the unpredictable and unprofitable agricultural jobs. They served some of the poorest young folks in the state. Many of their students were young women, often abused. To begin the courses, they provided some counseling services and discussed topics such as dress, pregnancy, health, and common diseases.

The ICATEP school served many valuable needs. Because of the foresight of the director, it had a role in honoring cultural arts and traditions. It provided valuable training in many skills necessary to fill community needs.

The school director had such a heart for the community, and she knew she was providing an opportunity for improvement for the women who entered her program in a land were opportunities are few. I found myself caught up in the congratulations of the short-term benefit. However, when I reflected on the sewing curriculum, I ached over the women's missing education about knowing and implementing democratic thinking and leadership. A democratic education for these women was a far cry from sewing the same seam on the same cloth over and over again for one of the thousands of athletic wear stores in one of the thousands of malls in *Los Estados Unidos*.

CONALEP in Ciudad Juárez

There are several types of high schools that Mexican students can attend, depending on their interest, location, test scores, availability, and cost. One of these is the

CONALEP system. CONALEP (*Colegio Nacional de Educación Profesional Técnica*) was designed in 1979 to prepare citizens to be technical professionals. CONALEP is similar to the ICATEP program, only it is in urban areas and has higher admission requirements. The brochure (SEP no date) provided by CONALEP defines the technical professional as a "professional who possesses the knowledge, skills, attitudes, and dexterity necessary to get specialized work inside of a business or public or private institution." The course of study is three years in six semesters "permitting you to go immediately to business management." Students who wish to attend the university must take a complementary course of study that includes one additional course each semester.

Each CONALEP school had four career-focus areas that the students choose from. The one I visited in Ciudad Juárez provided careers in industrial productivity, industrial electronics, information technology, and plastics. Other CONALEP schools may include any of the programs listed above and/or courses in automotive technology, diesel motors, business accounting, and administration.

I was allowed to visit the workshop laboratory where students in the last semester of their senior year practice the skills they have been learning in one of four career paths. One section of the large laboratory housed electronic equipment for students to learn the skills needed for industrial electronics. Materials were limited, but sufficient to run the program.

Another section of the laboratory housed the plastics career program. The school had a machine that converts plastic chips from materials such as plastic milk cartons into a plastic film that makes plastic bags. Five students were working at the machine. They loaded the plastic chips into the machine and waited until they were melted to begin pulling out the plastic film. The film was sent through a series of rollers until it was the size and thickness of plastic bag film. The teachers told me that their machine was missing a final component -- the cutting machine to make the bags. This was only a practice machine, and the plastic film was put back into the machine for the next practice run.

The curriculum for the industrial productivity career path includes the study of production schedules, materials management, inventory control, managing raw

materials, production and control systems to maximize productivity, and safety in the work environment. These courses account for approximately one-fourth of the three-year curriculum. The workshop for this industrial productivity program was a mock *maquiladora* assembly line, complete with the yellow line drawn on the floor to direct traffic flow. The table and stools for the assembly line were cast offs from a *maquiladora*. Around the room I saw pieces of scrap wood that were used in the assembly line production.

One of the teachers in the plastics program was a chemist with a strong interest in environmental management and recycling. She designed the program with this recycling interest. She also takes her students to a tire recycling business and involves them in an environmental project to monitor the Rio Grande and to implement watershed improvement projects in the community.

This same teacher had a commendable long-term goal. She twisted the plastics training model, which is supposed to be more a plastics injection-molding program, to a recycling model. She provided the students with understandings about other (though limited) recycling programs in the state of Chihuahua and an understanding of local environmental issues. She told me she hopes the students would start their own recycling businesses to find an economic niche and fill an environmental need.

Implications

Mr. Umberto would find it almost impossible to implement democratic curriculum projects such as his Rio Bravo study in the schools listed above. It would probably be even more difficult in the high-stakes testing environment in the schools in my Texas community. My experiences in visiting Mexican schools in *maquiladora* communities provided evidence that, at least in these locations, the Mexican school curriculum is strongly influenced by the needs of the U.S. factories located nearby. Due to space, I left out many examples. However, they surround us and cross the globe. One school in Tijuana changed its entire junior high curriculum so the students were prepared to work in a large aviation factory. Then, all of a sudden, the factory closed down and left town.

Most readers can probably count off similar "mind numbing experiences we create for human beings to meet a private agenda to serve the dominant power structures" (M.A.Wallace, personal communication, January 23, 2007). Our teachers agonize over the loss of rich curriculum experiences to the dominating test prep mandates from state and national regulations. In my university community, we, as education faculty, often feel the ongoing pressure from external funders as well as policy makers, urging us to just teach "the basics" in the education college; and they question why we teach anything about multicultural and critical perspectives in curriculum design. Evaluations must show gains in test scores immediately. No time for critical thought and depth of understanding. No room for assessing for learning. Colleges of education are being replaced with private corporations who make instant teachers who attend a short "training" and pass a content test. Dewey presents the same thoughts.

> To oscillate between drill exercises that strive to attain efficiency in outward doing without the use of intelligence, and an accumulation of knowledge that is supposed to be an ultimate end in itself, means that education accepts the present social conditions as final, and thereby takes upon itself the responsibility for perpetuating them (137).

Stromquist and Monkman's (2000) repercussions are very evident in our schools in the global era. Our schools have become the tool of the dominant classes to reproduce the social structure. Then, we reach over the border and use the Mexican schools to further entrench our dominance by mining their labor, mining their curriculum, and squelching their opportunities for democratic curriculum, critical thought, and social advancement.

The employment projections from U.S. Department of Labor identify the occupations with the largest job growth. More than 38 million jobs in 2010 will require no higher education, mostly in the service industry, with only about 15,000 requiring higher education (http://stats.bls.emp.emptab4.htm). Reproducing the social structures that exist today, enhanced by those students who are pushed out of education because of the repercussions described by Stromquist and Monkman, well prepares our country to meet this demand for a large, ill-educated and submissive workforce. Schools in the factory communities in Mexico, in the desperation of short-term employment, not only reproduce the strata, but also make curriculum to prepare their children exclusively for the factory jobs.

This introductory study is a call for support for ongoing examination of these and other changes on social structures such as education that occur in the environment of, and under the influence of, U.S. economic activities in Mexico and other countries which are in earlier stages of economic and democratic development. Especially important to understand is the short-term benefit versus the long-term benefit on Mexican education and Mexican society. The data above provide enough evidence to discourage a wait-and-see approach. The sensitive nature of international relations between a powerful country and a developing country pose a moral obligation for the policy makers in both countries to open this examination to ensure that a new form of colonization is not the consequence.

This research is only a step toward understanding the research questions: To what extent should public education funds provide training for private enterprises? The question is elevated in importance when the developing country plays host to a powerful country's market enterprises. Policy makers and educators in both countries should be alert to demands for modifying the host country's educational curriculum with long-term detrimental consequences to that country's educational potential, which, in effect, constitute colonizing practices.

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