ASSESSING THE TELESECUNDARIA SCHOOL PROGRAM IN CHIAPAS, MEXICO

Executive Summary
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A more extensive report is available upon request, by contacting Eugenia McGill, Director of the Workshop in Development Practice, Assistant Director of the Economic and Political Development Concentration, Columbia University’s School of International and Public Affairs <em419@columbia.edu>.
I. Acknowledgements

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We are indebted to Mr. Adonai Luis Ramirez and to all the officials from the Secretaría de Educación Pública (SEP) who guided our local efforts in Chiapas and participated in several interviews with our team.

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Finally, we would like to express our sincere appreciation to our faculty advisor, Dr. Marta Vicarelli of Yale University, for the invaluable guidance, wise insight and countless hours she dedicated to this project.
II. Introduction

In 1969 the Mexican government created a distance-learning program, called Telesecundarias, in an effort to meet the needs of rural populations in a cost effective manner. While it is the fastest growing modality of education and has been very effective at improving access to secondary education, it has not proven effective in regards to quality of education when compared to educational outcomes of the traditional secondary schools and the technical secondary schools. There are several possible reasons for Telesecundarias low achievement outcomes, however little research has been done to determine causal relationships. Understanding these barriers to success could help to improve educational outcomes in rural and marginalized areas of Mexico.

Working closely with its research partners, the SIPA team performed preliminary qualitative research (e.g. interviews and focus groups) in a small sample of Telesecundarias in Chiapas, Mexico. The results of this preliminary investigation informed the second phase of the project: the design of an intervention to be implemented in a larger number of schools. The yearlong pilot phase of the intervention will begin fall of 2012. The pilot intervention includes by design a randomized experiment to evaluate the program. This evaluation will be the third phase of the project, and will require three rounds of panel data that will be collected during the 2012-13 academic year before, during and after the intervention (i.e. treatment). Finally, the results of the experiment will allow the Aurora team to make recommendations concerning the improvement of continuation rates from telesecundarias to high school.

III. Background

Education in Mexico

The third article of the Mexican Constitution states that education is a right to be provided to all citizens and all should have equal educational opportunities. As such, the government provides compulsory basic education (grades 1-9). According to a Rand Corporation report, in 2005 public schools serviced 87 percent of all students and Mexico spent 5.9 percent of its gross domestic product per capita on education. This percentage value is higher than the Organization for Economic Cooperation and Development’s average of 5.6 percent, and
corresponds to a quarter of Mexico’s programmable budget. (Santibanez, Vernez, and Razquin, 2005)

The education system’s administration has been largely decentralized and its 32 states are responsible for their budgets. On average, states fund 85 percent of education through federal transfers. (Santibanez, Vernez, and Razquin, 2005) Yet governance of education remains highly centralized. The Ministry of Education (Secretaría de Educación Pública, or SEP) sets all major guidelines concerning teacher salaries, the school calendar, length of school day and designs and approves the national curriculum.

Despite said levels of spending the Mexican education system has been characterized by insufficient enrollment rates, high dropout rates, insufficient supply of secondary (7-9th grades) schools, and low levels of student achievement (Santibanez, Vernez, and Razquin, 2005). In an attempt to improve some of these issues, the government has enacted several programs including the creation of Telesecundarias, which will be the focus of this study.

**Telesecundarias**

This section describes the secundaria system and Telesecundarias drawing extensively from Rincon-Gallardo (2010).

There are three different types of secondary schools in Mexico: Secundarias Generales (SG) or general secondary schools, traditional style schools with a curriculum; Secundarias Técnicas (ST), technical secondary schools, with curriculum focused on vocational technical training; and Telesecundarias, or schools that provide teaching through satellite TV programming and DVDs. In general, SG provide education in urban locations, whereas Telesecundarias serve mostly rural and marginalized populations where the construction of a new secondary school is not cost effective.

Unlike the SG, which have teachers specialized per school subject, Telesecundarias have only one generalist teacher per grade to facilitate lectures, assist students with schoolwork and answer questions. The teacher conducts learning but is not necessarily the primary source of information. The teacher may opt to display the TV programming or DVDs as much or as little as they like. Students are also provided a book of basic concepts and a learning guide that includes activities and exercises.

It is true though that Telesecundarias have played a fundamental role in the expansion of access to secondary education in Mexico since 1993, when this educational level was declared mandatory in the country. Between 1993 and 2006, the increase in the number of
Telesecundarias represented approximately half of the total increase of secondary schools in Mexico. As of 2005, more than 60 percent of public secondary schools in Mexico are Telesecundarias, and one out of every five secondary school students attends a Telesecundaria (Martinez, 2005).

While there has been a considerable increase in access, poor results in achievement pervade. According to a study by the Mexican Institute for the Evaluation of Education (INEE) in 2005, Telesecundarias have not proven successful in improving student outcomes such as school attendance, transition to high school and learning as measured by standardized tests. TS have even been charged with having reproduced and accentuated inequalities they intended to remedy by giving less educational opportunity to those most in need (Rincon-Gallardo, 2010; Santos, 2005).

The Program for International Student Assessment (PISA) is an international assessment that focuses on 15 year olds’ capabilities. In 2003, almost all students in Telesecundarias, who participated in PISA, were classified in the two lowest levels of achievement out of six (i.e. levels zero and one) both in mathematics and reading comprehension (95 percent for mathematics and 89 percent for reading comprehension), while none of them was placed beyond level three. At the same time, the levels of achievement of students in SG and ST improved.

The possible reasons for this inequality in achievement and poor success rates of Telesecundarias are not well understood. In order to address the challenge of providing equality of educational opportunity to students in Mexico, it is fundamental to find out why students in Telesecundarias are not performing as well as students in the two other types of public secondary schools.

Suggested barriers to success include:

- Insufficient availability of materials and infrastructure
- Insufficient availability of teachers
- Proliferation of multi-level Telesecundarias
- Poor credentials and background of teachers and facilitators
- Poor teacher training
- High teacher turnover
- High percentage of students that speak Spanish as a second language
- Low parental participation or support
- Low perceived returns to education among students and parents
Chiapas

Chiapas is the southernmost state of Mexico bordering Guatemala to the east. According to a report by the National Institute of Statistics and Geography (INEGI), “Perspectiva Estadistica Chiapas” (2011), Chiapas makes up approximately 4.3 percent of the national population with 4,797,000 people, and is the state with the third highest number of indigenous language speakers. See table 1 for the indigenous language composition of Chiapas. Forty-eight percent of the Chiapas population lives in urban areas, while the remaining 52 percent lives in rural areas (a much greater number than the national 22 percent) (INEGia, 2011). The economy of Chiapas contributes to only 1.8 percent of the national GDP. Subsistence agriculture dominates in the state and does not provide income-generating agricultural surpluses.

Chiapas’ humid climate favors the cultivation of coffee, banana, sugarcane, grains, and fruits. It is the largest generator of hydroelectric energy in the country (47.6 percent). However, due to extreme social inequalities many indigenous communities lack electricity and running water. The 2005 Marginalization in Mexico Report, issued by the National Population Council (CONAPO), gave Chiapas the highest ranking, ‘very high’, for marginalized populations. This is based on percentage of the population that is illiterate, lacks access to running water or indoor plumbing, lacks electricity, have houses with dirt floors, cook with wood or coal among other indicators. Of the 32 states only Guerrero fares worse.

The per capita income of indigenous people is equivalent to 32 percent of the non-indigenous population, and 83 percent of the indigenous population works in agriculture, as compared to 58.3 percent of the total Chiapan population (SIPAZ, 2011). Almost 55 percent of the Chiapan population is older than 14 years of age and available for economic activity. And about 57 percent of such economically active citizens receive at least minimum wage, and 15.7 percent do not receive any income (e.g. work for their own subsistence). SIPAZ, the international non-governmental organization dedicated to fostering peace in Chiapas, Guerrero and Oaxaca, estimates that of the 304,018 indigenous people employed in the state, only 9.9 percent earns at least the minimum monthly wage, 42 percent live on an income below the minimum wage, and 42 percent do not report any income (SIPAZ, 2011).

Education in Chiapas

While Telesecundarios have existed in Mexico since 1969 (although, in a slightly different form), they were introduced in Chiapas in 1980 (Martinez-Rizo, 2009). They now represent over 40 percent of enrollments in Chiapas, compared to around 5 percent in wealthier states like Baja California, Coahuila and Nuevo Leon (Santibanez, Vernez, and Razquin, 2005). Chiapas is one of
Mexico’s lowest performing states, as evidenced from the educational indicators in table 2. According to INEGI, performance in Telesecundarias is well below the country’s average.

Table 1: Composition of Indigenous Languages in Chiapas

<table>
<thead>
<tr>
<th>Language</th>
<th>Number of individuals</th>
<th>Percentage of the indigenous groups</th>
<th>Percentage of the state population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totzil</td>
<td>393,272</td>
<td>34%</td>
<td>8%</td>
</tr>
<tr>
<td>Tzeltal</td>
<td>333,006</td>
<td>29%</td>
<td>6.9%</td>
</tr>
<tr>
<td>Chol</td>
<td>182,557</td>
<td>16%</td>
<td>3.8%</td>
</tr>
<tr>
<td>Zoque</td>
<td>51,611</td>
<td>4.5%</td>
<td>1%</td>
</tr>
<tr>
<td>Tojolabal</td>
<td>51,143</td>
<td>4.4%</td>
<td>1%</td>
</tr>
</tbody>
</table>

Source: INEGI, 2011.

Table 2: Education indicators for Mexico (national average) and Chiapas

<table>
<thead>
<tr>
<th>Indicator</th>
<th>Mexico</th>
<th>Chiapas</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiteracy rate (&gt;15 years)</td>
<td>6.9%</td>
<td>17.8%</td>
</tr>
<tr>
<td>School attendance (5-14 years)</td>
<td>94%</td>
<td>89.4%</td>
</tr>
<tr>
<td>Post-primary schooling (&gt;15 years)</td>
<td>63.5%</td>
<td>44.9%</td>
</tr>
</tbody>
</table>
IV. Intervention Design

Despite the vast improvement in access to secondary school, Telesecundarias have not been successful in improving student outcomes such as transition to high school and learning as measured by standardized tests.

In order to provide recommendations as to how Telesecundaria educational outcomes can be improved the Aurora Project first set out to identify the barriers to Telesecundaria success and to determine the causal effects of specific Telesecundaria characteristics on schooling outcomes. This preliminary background analysis included extensive research of the education system in Mexico and telesecundarias in Chiapas in particular. This was followed by a comprehensive analysis of literature of relevant studies in the fields of education, development and randomized experiments. An important detail that emerged in our background investigation is that continuation rate of telesecundaria students to high school in Chiapas is only 36% compared to 53% for the rest of Mexico.

Our desk review was elucidated by a field visit in January during which the team conducted interviews and led focus groups. Two findings were salient: first, few students were aware of the logistics involved in continuing to high school and few knew others who had continued on to high school; and second, it appeared that little value was placed on continuing education in these communities.

Low continuation rates to high school emerged as an area deserving much attention and one we may be able to address with an intervention.

Building on these key findings, we developed the intervention design. In February-March 2012 we worked with Dr. Vicarelli and Escalera to design an intervention aimed at improving telesecundaria students' effort/performance and continuation rate to high school. The intervention includes multiple components: the telesecundaria students will be presented role models who attended high school, and will be provided with information about the benefits of high-school education (i.e. returns to education) and details on enrollment procedures. By
design the intervention includes a randomized program evaluation (i.e. Randomized Control Trial, RCT). The pilot phase of the RCT will be initiated at the end of August 2012.

In March, members of the SIPA team traveled to Chiapas with Dr. Vicarelli to test the intervention in 4 schools with the support of Escalera. The March field trip enabled us to assess the effectiveness of the intervention and to further develop recommendations on how to implement and evaluate the program.

Our team developed a number of analytical tools and protocols throughout the course of the workshop project. In order to better understand barriers to high school we created key informant interview guides and focus group guides to gather qualitative information from administrators, teachers, students and parents. We collaborated with Dr. Vicarelli in designing survey instruments for the baseline survey to gather quantitative data as well as qualitative data from from parents, students, teachers and surveyors. The design of survey instruments included also the development of a survey coding system for the baseline survey to be used during the data entry in STATA. We also created a first draft of the midline and endline survey questionnaires for students and parents. Moreover, we developed protocols and guidelines for data collection, data entry and data analysis. These protocols will be used to train surveyors to administer the surveys, and to train research assistants in the data entry and data analysis. Finally, we also compiled an exhaustive list of recommendations for the project implementation (best practices for the intervention) to be shared with the next Aurora team.

We were involved in the recruitment of new members of the team, and helped to lead a workshop for these new members where we shared our work and our recommendations for the continuation of the project. The dissemination of information to the Aurora Team, and the presentation of this report is the SIPA team’s final contribution.

The next steps of the Aurora project range from the preparation and finalization of the intervention to be done this coming summer, to the pilot implementation and randomized evaluation to be implemented next academic year. The Aurora team is collaborating with the government of Chiapas on the scale up the project to take place in 2014.

V. Conclusion

The SIPA Team has been determined to make a useful contribution to the mission of the Aurora
Project, which it hopes will have broader effects throughout Mexico. We explored the link between telesecundaria and educational outcomes and gathered all necessary information and data needed to inform the design of the pilot phase of a randomized evaluation. We went on to develop the intervention and randomized evaluation. The key objective of the Aurora Team is to evaluate the effects of our pilot intervention using a randomized control trial in hopes of informing educational policy making in Mexico and improving the telesecundaria program. Ultimately this project seeks to increase the number of telesecundaria students continuing to high school in rural and marginalized areas of Mexico in order to break the intergenerational poverty trap.

VI. References


INEGI - National Institute of Statistics and Geography, “Perspectiva Estadística Chiapas”, March 2011


Santibanez, L, Vernez, G, and Razquin P, “Education in Mexico: Challenges and Opportunities”, (Santa Monica, CA, 2005) Also referred to as “the Rand report”.

